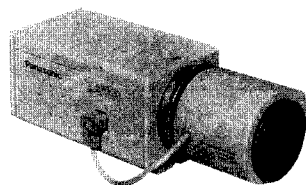


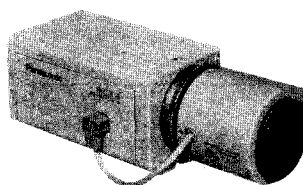
Service Manual

Colour CCTV Cameras

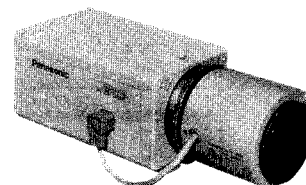
WV-CP610 / WV-CP612 / WV-CP614



WV-CP610



WV-CP612



WV-CP614

SPECIFICATIONS

Pick-up Device:	752 (H) x 582 (V) pixels, Interline Transfer CCD
Scanning Area:	4.9 (H) x 3.7 (V) mm (Equivalent to scanning area of 1/3" pick-up tube)
Scanning:	625 lines / 50 fields / 25 frames
Horizontal:	15.625 KHz
Vertical:	50.00 Hz
Synchronization:	Internal, Line-locked, External (VS/VBS) or Multiplexed Vertical Drive (VD2) Selectable
Video Output:	1.0 Vp-p PAL composite 75 ohms / BNC connector
Horizontal Resolution:	480 lines
Signal-to-Noise Ratio:	50 dB (AGC OFF, weight ON)
Minimum Illumination:	0.9 lux (0.09 footcandle) at F0.75 [Equivalent to 3 lux (0.3 footcandle) at F1.4]
Gain Control:	Selectable AGC ON or OFF (SET UP MENU)
White Balance:	Selectable ATW or AWC (SET UP MENU)
Aperture:	Set Variable (SET UP MENU)
Electronic Light Control:	Equivalent to continuous variable shutter speed between 1/50 sec. and 1/10000 sec.
Back Light Compensation:	Selectable Preset On or Off (SET UP MENU)
Electronic Shutter Speed:	Selectable 1/50 (OFF), 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000.
Lens Mount:	Selectable C-mount or CS-mount
ALC Lens:	Selectable DC or Video
Ambient Operating Temperature:	-10°C - +50°C (14°F - 122°F)
Ambient Operating Humidity:	Less than 90%
Power Source:	WV-CP610/A, B, G: 220 - 240V AC 50 Hz WV-CP612E: 12V DC WV-CP614E: 24V AC 50 Hz
Power consumption:	WV-CP610/A, B, G: 5.4W WV-CP612E: 400mA WV-CP614E: 5.2W
Dimensions (without lens):	67 (W) x 55 (H) x 123 (D) mm [2-5/8" (W) x 2-3/16" (H) x 4-13/16" (D)]
Weights (without lens):	WV-CP610/A, B, G: 0.68kg (1.5 lbs.) WV-CP612E: 0.47kg (1.0 lbs.) WV-CP614E: 0.50kg (1.1 lbs.)

Weights and dimensions indicated are approximate.
Specifications are subject to change without notice.

Panasonic

© 1994 Matsushita Communication Industrial Co., Ltd.
All rights reserved. Unauthorized copying and distribution is a violation of law.

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.

It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.

Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

 CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.	 This symbol warns the user that uninsulated voltage within the unit may have sufficient magnitude to cause electric shock. Therefore, it is dangerous to make any kind of contact with any inside part of this unit.  This symbol alerts the user that important literature concerning the operation and maintenance of this has been included. Therefore, it should be read carefully in order to avoid any problems.
---	--

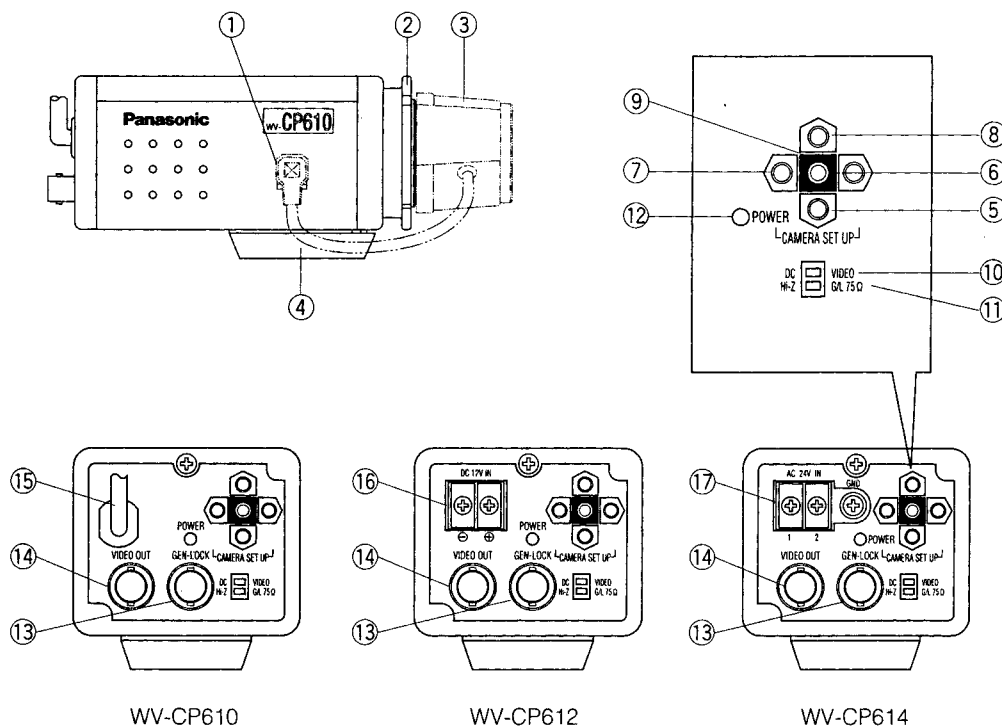
IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are indicated by the "A" mark on the schematic diagram and the replacement parts list. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire, or other hazards. Do not modify the original design without permission of manufacturer.

CONTENTS

MAJOR OPERATING CONTROLS AND THEIR FUNCTION	1
CIRCUIT DESCRIPTION	3
MODIFICATION PROCEDURE FOR E.V.R ADJUSTMENT KIT	26
ABOUT YOUR COMPUTER	27
ADJUSTMENT PROCEDURE	28
APPEARANCE OF IC, TRANSISTOR AND DIODE	55
LOCATION OF TEST POINTS AND ADJUSTING CONTROLS	56
CHIP COMPONENTS	57
BLOCK DIAGRAM	
DRIVE BOARD	59
DIGITAL BOARD	60
SCHEMATIC DIAGRAM	
REAR BOARD (WV-CP610)	61
REAR BOARD (WV-CP612)	62
REAR BOARD (WV-CP614)	63
SENSOR / ALC BOARD	65
DRIVE BOARD	67
DIGITAL BOARD	68
POWER BOARD (WV-CP610)	70
VP BOARD (WV-CP612)	71
POWER BOARD (WV-CP614)	72
CONDUCTOR VIEW	
REAR BOARD (WV-CP610)	61
REAR BOARD (WV-CP612)	62
REAR BOARD (WV-CP614)	63
SENSOR / ALC BOARD	64
DRIVE BOARD	66
DIGITAL BOARD	69
POWER BOARD (WV-CP610)	70
VP BOARD (WV-CP612)	71
POWER BOARD (WV-CP614)	72
EXPLODED VIEW	73
REPLACEMENT PARTS LIST	74

MAJOR OPERATING CONTROLS AND THEIR FUNCTIONS



(1) Auto Iris Lens Connector

This connector supplies the power and either video signal or DC control signal to the auto iris lens.

A 4-pin male connector to be mated with the this female connector is supplied as a standard accessory (Part No. YFE419J100).

(2) Flange-back Adjusting Ring

This is used to adjust the back focal length or picture focus by rotating this ring to clockwise for C-mount lens or counterclockwise for CS-mount lens.

CAUTIONS:

1. Always set this ring to fully clockwise before mounting the lens to prevent damage of inner glass or CCD image sensor.
2. Do not turn this ring too much to counterclockwise when the C-mount lens is mounted as this could damage the inner glass or CCD image sensor.

(3) Lens (Option)

(4) Camera Mounting Screw Hole

This threaded hole (1/4" - 20) is used to mount the camera onto a mounting bracket or tripod.

(5) Down Switch (V)

This switch is used to move the blinking position (cursor) in the down direction.

(6) Right Switch (>)

This switch is used to move the cursor in the right direction.

(7) Left Switch (<)

This switch is used to move the cursor in the left direction.

(8) Up Switch (Λ)

This switch is used to move the cursor in the up direction.

(9) Set Switch

The mode selection is enabled by pressing this switch.

(10) Lens Selection Switch (VIDEO/DC)

This switch is used to select the type of auto iris control signal to be supplied to the lens from the Auto Iris Lens Connector.

DC: Choose this position when an auto iris lens that requires a DC control signal is mounted on the camera. See pages 10, 11, 12 and 13 for a list of these lenses.

VIDEO: Choose this position when an auto iris lens that requires a video control signal is mounted on the camera.

Examples of this type of lens includes WV-LA8B, WV-LA16B, WV-LA25B and the WV-LA50B.

(11) Gen-lock Termination Switch (G/L 75 Ω , HI-Z)

When looping through a gen-lock video input signal, set this switch to the HI-Z position. In all other cases, set this to the 75 Ω position.

(12) Power Indicator

(13) Gen-lock Input Connector (GEN-LOCK)

A composite colour, 1.0 Vp-p/75 Ω video signal, black burst, 0.3 Vp-p/75 Ω signal or composite

sync signal should be supplied to this connector for external synchronization.

(14) Video Output Connector (VIDEO OUT)

A 1.0 Vp-p/75 Ω composite video signal is provided at this connector.

Whenever the multiplexed vertical drive (VD2) signal is supplied to this connector, the camera synchronization mode is automatically set to Vertical Drive Lock.

(15) Power Cord

(16) DC 12V In Terminal (DC 12V IN)

This terminal accepts 12V DC power source (10.5V - 16V).

(17) AC 24V In Terminal (AC 24V IN)

This terminal accepts 24V AC power source (19.5V - 28V). Be sure to connect grounding lead to the GND terminal.

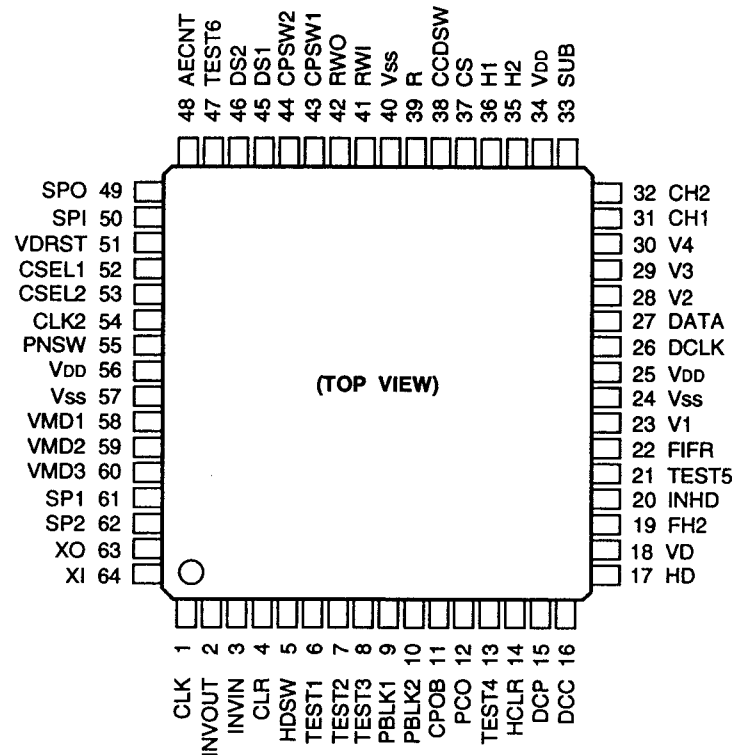
CIRCUIT DESCRIPTION

IC Description

1. Drive Board

1.1. IC4 on the Drive Board is using the Timing Generator IC YWCXD2404R.

Description of this IC is as follows:



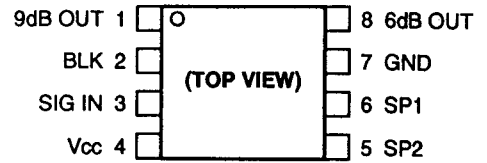
Pin	Name	I/O	Description
1	CLK	O	Clock (fck) Pulse output terminal.
2	INVOUT	O	Inverter output terminal.
3	INVIN	I	Inverter input terminal.
4	CLR	I	All clear signal input terminal. L: Clear; H: Active
5	HDSW	I	HD Switching signal input terminal. H: Internal; L: External
6	TEST1	I	Test terminal (normally open).
7	TEST2	I	Test terminal (normally open).
8	TEST3	I	Test terminal (normally open).
9	PBLK1	O	Pre Blanking Pulse output terminal. Start: Rising edge of HD signal.
10	PBLK2	O	Pre Blanking Pulse output terminal. Start: Rising edge of HCLR signal.
11	CPOB	O	OB Clamp Pulse output terminal.
12	PCO	O	Phase Comparator output terminal.
13	TEST4	I	Test terminal (normally open).
14	HCLR	O	H Clear pulse output.
15	DCP	O	Digital Clamp Pulse output.
16	DCC	O	Digital Clamp Pulse output terminal.

Pin	Name	I/O	Description
17	HD	I	HD signal input terminal.
18	VD	I	VD signal input terminal.
19	FH2	O	FH/2 Pulse output terminal.
20	INHD	O	Internal HD output terminal.
21	TEST5	I	Test terminal (normally open).
22	FIFR	I	Field accumulation:H Frame accumulation:L terminal.
23	V1	O	V1 Transfer Pulse output terminal.
24	Vss	-	Ground terminal.
25	VDD	-	Power supply terminal.
26	DCLK	I	Serial Clock input terminal.
27	DATA	I	Serial Data input terminal.
28	V2	O	V2 Transfer Pulse output terminal.
29	V3	O	V3 Transfer Pulse output terminal.
30	V4	O	V4 Transfer Pulse output terminal.
31	CH1	O	Charge Pulse for V1 output terminal.
32	CH2	O	Charge Pulse for V3 output terminal.
33	SUB	O	SUB signal output terminal.

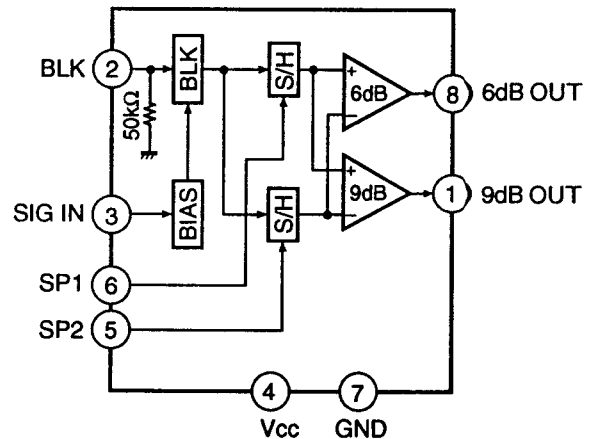
Pin	Name	I/O	Description
34	VDD	–	Power supply terminal.
35	H2	O	H2 Transfer Pulse output terminal.
36	H1	O	H1 Transfer Pulse output terminal.
37	CS	I	Chip Select signal input terminal for serial Data.
38	CCDSW	I	CCD Element Select signal input terminal. (L: 510H; H: 768H)
39	R	O	R Transfer Pulse output terminal.
40	Vss	–	Ground terminal.
41	RWI	I	R Transfer Pulse Width adjust input terminal.
42	RWO	O	R Transfer Pulse Width adjust output terminal.
43	CPSW1	I	CPOB Phase Switching signal input terminals.
44	CPSW2	I	
45	DS1	O	Pulse output terminals for CDS.
46	DS2	O	
47	TEST6	I	Test terminal (nomally open).
48	AECNT	I	Electronic Shutter setting signal input terminal.
49	SPO	O	SP1, 2 Pulse phase adjust output terminal.
50	SPI	I	SP1, 2 Pulse phase adjust input terminal.
51	VDRST	I	VD Reset Pulse input terminal. (L: Reset; H: Normal)
52	CSEL1	I	CLK2 Pulse phase switching signal input terminals.
53	CSEL2	I	
54	CLK2	O	Clock Pulse output terminal for Digital circuit.
55	PNSW	I	TV System switching signal input terminal. (L: NTSC; H: PAL)
56	VDD	–	Power supply terminal.
57	Vss	–	Ground terminal.
58	VMD1	I	Electronic Shutter switching signal input terminals.
59	VMD2	I	
60	VMD3	I	
61	SP1	O	Sampling Pulse output terminals.
62	SP2	O	
63	X0	O	2fck OSC output terminal.
64	XI	I	2fck OSC input terminal.

1.2. IC1 on the Drive Board is using the Correlated Double Sampling IC AN2018S.

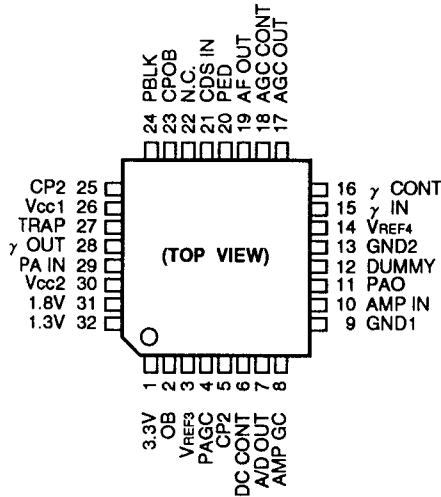
Description of this IC is as follows:



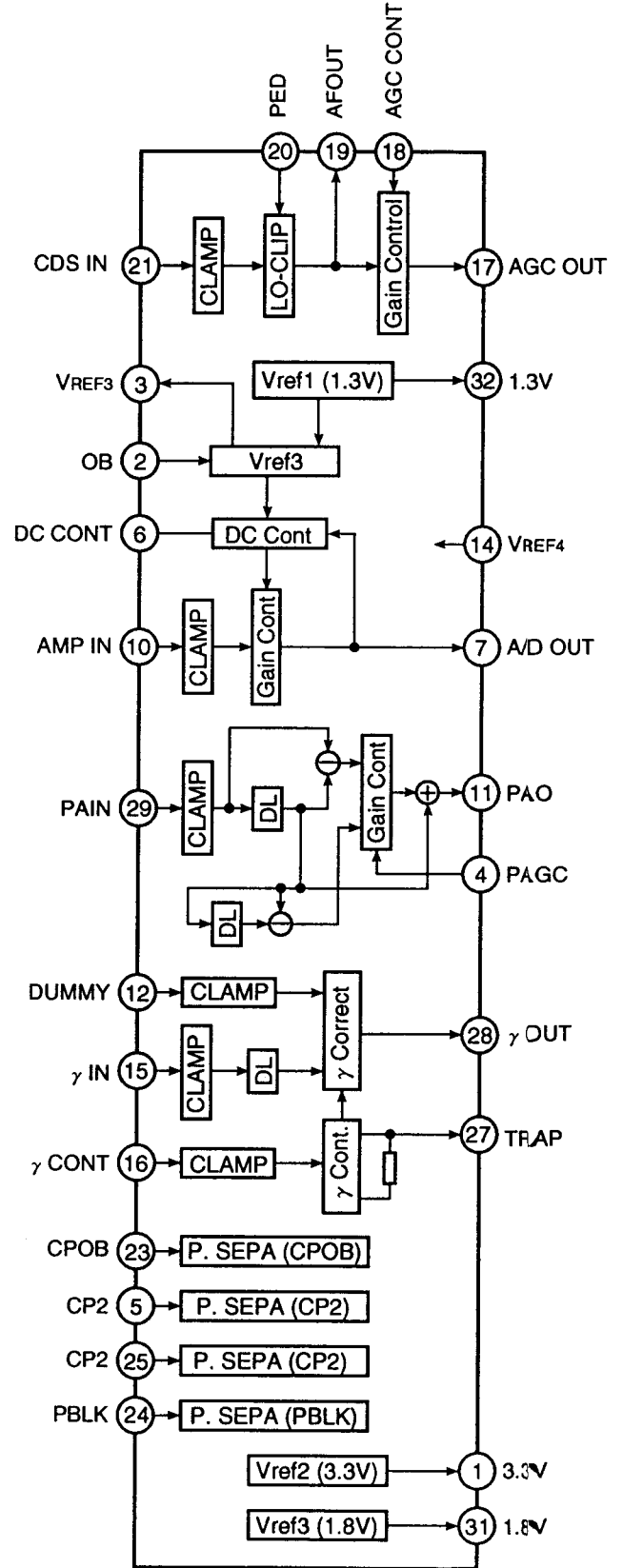
Pin	Name	I/O	Description
1	9dB OUT	O	CDS signal (9dB) output terminal.
2	BLK	I	Blanking Pulse input terminal.
3	SIG IN	I	CCD signal input terminal.
4	Vcc	–	Power supply terminal.
5	SP2	I	Sampling Pulse (2) input terminal.
6	SP1	I	Sampling Pulse (1) input terminal.
7	GND	–	Ground terminal.
8	6dB OUT	O	CDS signal (6dB) output terminal.



- 1.3. IC6 on the Drive Board is using the AGC IC AN2034FAP.
Description of this IC is as follows:

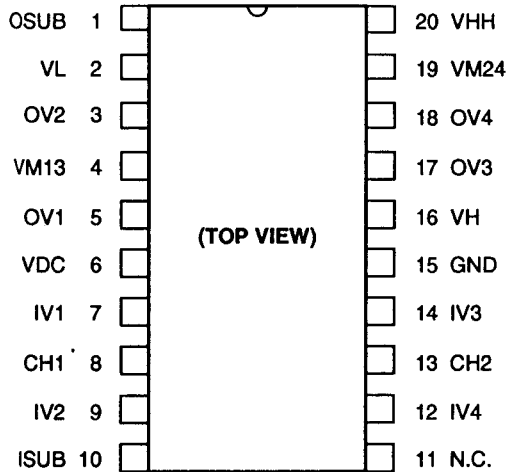


Pin	Name	I/O	Description
1	3.3V	O	Reference voltage (3.3V) output terminal.
2	OB	I	OB signal adjusting terminal.
3	VREF3	O	Reference voltage 3 input terminal.
4	PAGC	-	Pre Apature Gain control terminal.
5	CP2	I	Clamp Pulse input terminal.
6	DC CONT	O	DC control signal output terminal.
7	A/D OUT	O	A/D OUT signal output terminal.
8	AMP GC	I	Amplifier Gain control terminal.
9	GND1	-	Ground terminal.
10	AMP IN	I	Amplifier input terminal.
11	PAO	O	Pre Apature signal output terminal.
12	DUMMY	-	Dummy Clamp terminal.
13	GND2	-	Ground terminal.
14	VREF4	I	Reference voltage (1.8V) input terminal.
15	γ IN	I	γ signal input terminal.
16	γ CONT	I	γ control terminal.
17	AGC OUT	O	AGC signal output terminal.
18	AGC CONT	I	AGC control terminal.
19	AF OUT	O	AF signal output terminal.
20	PED	I	Pedestal Level adjusting terminal.
21	CDS IN	I	CDS-OUT signal input terminal.
22	N.C.	-	Non connection.
23	CPOB	I	CPOB signal input terminal.
24	PBLK	I	Pre Blanking Pulse input terminal.
25	CP2	I	Clamp Pulse input terminal.
26	Vcc1	-	Power supply terminal.
27	TRAP	O	TRAP signal output terminal.
28	γ OUT	O	γ signal output terminal.
29	PAIN	I	Pre Apature signal input terminal.
30	Vcc2	-	Power supply terminal.
31	1.8V	O	Reference voltage (1.8V) output terminal.
32	1.3V	O	Reference voltage (1.3V) output terminal.



- 1.4. IC10 on the Drive Board is using the CCD Vertical Driver IC MN3112SA.

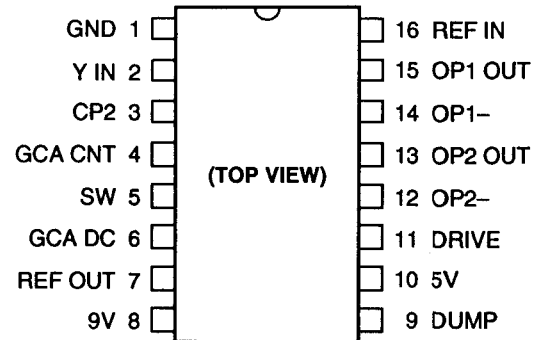
Description of this IC is as follows:



Pin	Name	I/O	Description
1	OSUB	O	Substrate signal output terminal.
2	VL	–	VL voltage supply terminal.
3	OV2	O	Vertical Pulse 2 output terminal.
4	VM13	I	VM13 voltage supply terminal.
5	OV1	O	Vertical Pulse 1 output terminal.
6	VDC	–	Power supply.
7	IV1	I	Vertical Pulse 1 input terminal.
8	CH1	I	CH1 signal input terminal.
9	IV2	I	Vertical Pulse 2 input terminal.
10	ISUB	I	Substrate signal input terminal.
11	N.C.	–	Non Connection.
12	IV4	I	Vertical Pulse 4 input terminal.
13	CH2	I	CH2 signal input terminal.
14	IV3	I	Vertical Pulse 3 input terminal.
15	GND	–	Ground terminal.
16	VH	–	VH voltage supply terminal.
17	OV3	O	Vertical Pulse 3 output terminal.
18	OV4	O	Vertical Pulse 4 output terminal.
19	VM24	–	VM24 voltage supply terminal.
20	VHH	–	VHH voltage supply terminal.

- 1.5. IC3 on the Drive Board is using the ALC Control IC YWC5023068E1.

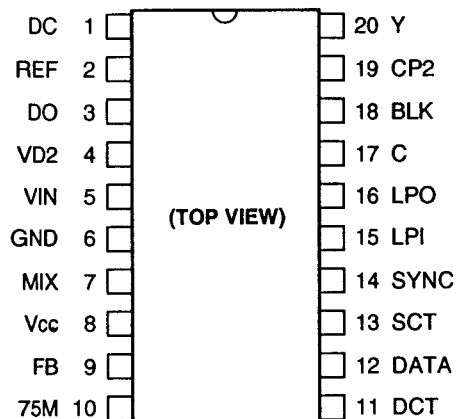
Description of this IC is as follows:



Pin	Name	I/O	Description
1	GND	–	Ground terminal.
2	Y IN	I	Luminance signal input terminal.
3	CP2	I	Clamp Pulse input terminal.
4	GCA CNT	I	GCA Control signal input terminal.
5	SW	I	ALC Level Control signal input terminal.
6	GCA DC	I	GCA DC input terminal.
7	REF OUT	O	Reference signal output terminal.
8	9V	–	9V power supply terminal.
9	DUMP	O	Dumper signal output terminal.
10	5V	–	5V power supply terminal.
11	DRIVE	O	Drive signal output terminal.
12	OP2–	I	Operational Amp. 2 inverting input terminal.
13	OP2 OUT	O	Operational Amp. 2 output terminal.
14	OP1–	I	Operational Amp. 1 inverting input terminal.
15	OP1 OUT	O	Operational Amp. 1 output terminal.
16	REF IN	I	Reference signal input terminal.

1.6. IC8 on the Drive Board is using the Video Output IC YWC5020074E1.

Description of this IC is as follows:

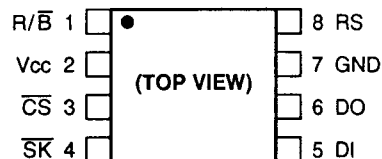


Pin	Name	I/O	Description
1	DC	I	DC signal input terminal.
2	REF	O	Reference voltage (2V) output terminal.
3	DO	O	Data output terminal.
4	VD2	O	VD2 signal output terminal.
5	VIN	I	VIN signal input terminal.
6	GND	-	Ground terminal.
7	MIX	O	MIX signal output terminal.
8	Vcc	-	Power supply terminal.
9	FB	I	Feedback signal input terminal.
10	75M	O	Video signal output terminal.
11	DCT	I	DCT signal input terminal.
12	DATA	I	Data input terminal.
13	SCT	I	SCT signal input terminal.
14	SYNC	I	Sync signal input terminal.
15	LPI	I	Low Pass Filter input terminal.
16	LPO	O	Low Pass Filter output terminal.
17	C	I	Chroma signal input terminal.
18	BLK	I	Blanking Pulse input terminal.
19	CP2	I	Clamp Pulse input terminal.
20	Y	I	Luminance signal input terminal.

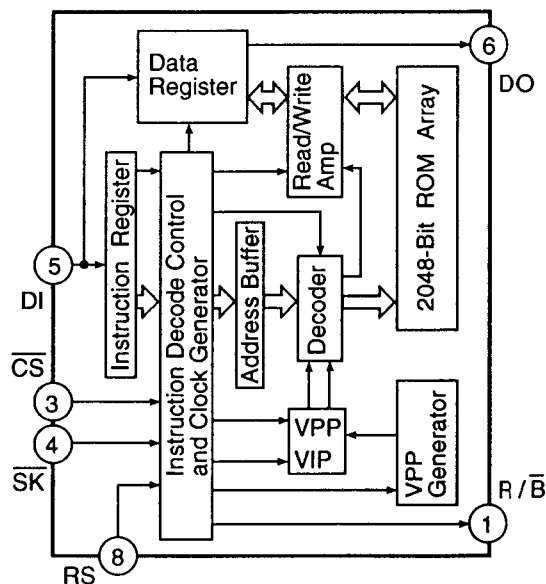
2. Digital Board

2.1. IC4 on the Digital Board is using the 2K (128 x 16-Bit) Serial EEPROM IC YWBR9021BFE1.

Description of this IC is as follows:

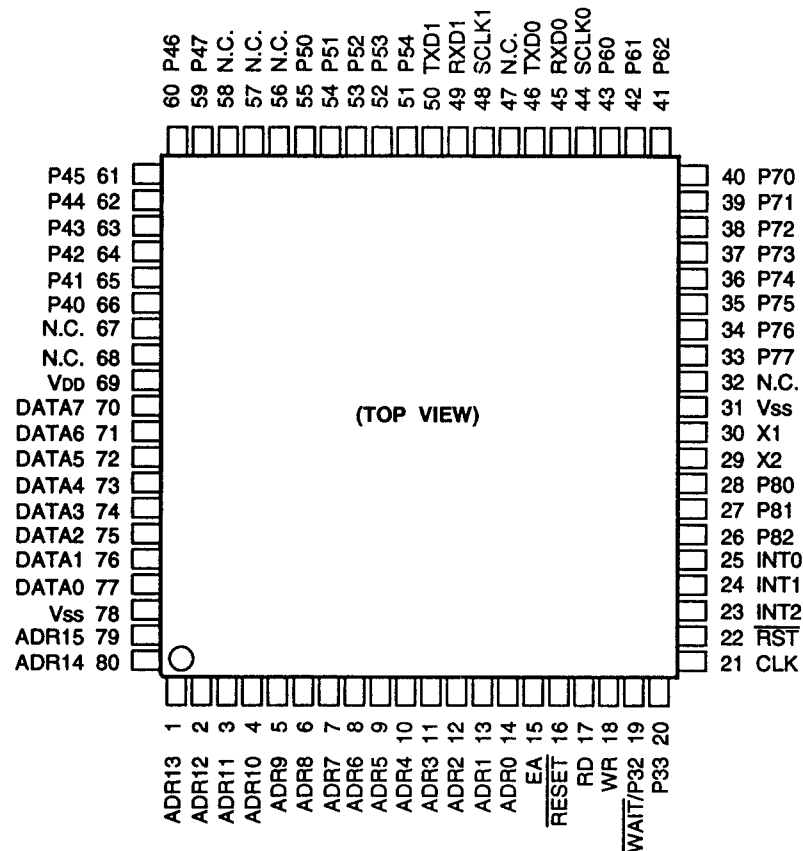


Pin	Name	I/O	Description
1	R/ $\bar{B}$	O	Ready/Busy signal output terminal.
2	Vcc	-	Power supply terminal.
3	$\bar{CS}$	I	Chip Select signal input terminal.
4	$\bar{SK}$	I	Serial Data Clock Pulse input terminal.
5	DI	I	Serial Data input terminal.
6	DO	O	Serial Data output terminal.
7	GND	-	Ground terminal.
8	RS	I	Reset Pulse input terminal.



2.2. IC8 on the Digital Board is using the 8-Bit Microprocessor IC YWTMP90C3427.

Description of this IC is as follows:



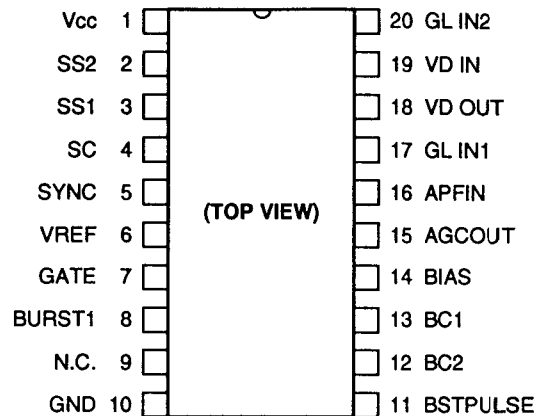
Pin	Name	I/O	Description
1	ADR13	I	Address signal input terminals. (16-Bit)
2	ADR12	I	
3	ADR11	I	
4	ADR10	I	
5	ADR9	I	
6	ADR8	I	
7	ADR7	I	
8	ADR6	I	
9	ADR5	I	
10	ADR4	I	
11	ADR3	I	
12	ADR2	I	
13	ADR1	I	
14	ADR0	I	
15	EA	I	EA signal input terminal.
16	RESET	I	Reset Pulse input terminal.
17	RD	O	Read Enable signal output terminal.
18	WR	O	Write Enable signal output terminal.

Pin	Name	I/O	Description
19	WAIT/P32	I	WAIT/P32 signal input terminal.
20	P33	I	P33 signal input terminal.
21	CLK	O	Clock Pulse output terminal.
22	RST	I	RST signal input terminal.
23	INT2	I	Interrupt signal input terminals.
24	INT1	I	
25	INT0	I	
26	P82	I	P82 signal input terminal.
27	P81	I	P81 signal input terminal.
28	P80	I	P80 signal input terminal.
29	X2	O	Crystal Oscillator output terminal.
30	X1	I	Crystal Oscillator input terminal.
31	Vss	-	Ground terminal.
32	N.C.	-	Non connection.
33	P77	O	P77 signal output terminal.
34	P76	O	P76 signal output terminal.
35	P75	O	P75 signal output terminal.
36	P74	I	SET Switch input terminal.

Pin	Name	I/O	Description
37	P73	I	LEFT Switch input terminal.
38	P72	I	RIGHT Switch input terminal.
39	P71	I	DOWN Switch input terminal.
40	P70	I	UP Switch input terminal.
41	P62	I	TG Chip Select signal output terminal.
42	P61	I	D/A Load signal output terminal.
43	P60	I	Chip Select signal output terminal.
44	SCLK0	O	Serial Data Clock Pulse output terminal.
45	RXD0	I	Serial Data input terminal.
46	TXD0	O	Serial Data output terminal.
47	N.C.	–	Non connection.
48	SCLK1	O	Serial Data Clock Pulse output terminal.
49	RXD1	I	Serial Data input terminal.
50	TXD1	O	Serial Data output terminal.
51	P54	I	Test terminal.
52	P53	O	STB signal output terminal.
53	P52	O	ERST signal output terminal.
54	P51	I	NTSC/PAL signal input terminal.
55	P50	I	FLD signal input terminal.
56	N.C.	–	Non connection.
57	N.C.	–	Non connection.
58	N.C.	–	Non connection.
59	P47	O	P47 signal output terminal.
60	P46	O	P46 signal output terminal.
61	P45	O	P45 signal output terminal.
62	P44	O	P44 signal output terminal.
63	P43	O	P43 signal output terminal.
64	P42	O	P42 signal output terminal.
65	P41	O	P41 signal output terminal.
66	P40	O	P40 signal output terminal.
67	N.C.	–	Non connection.
68	N.C.	–	Non connection.
69	VDD	–	Power supply terminal.
70	DATA7	I/O	Data Bus terminals. (8-Bit)
71	DATA6	I/O	
72	DATA5	I/O	
73	DATA4	I/O	
74	DATA3	I/O	
75	DATA2	I/O	
76	DATA1	I/O	
77	DATA0	I/O	
78	Vss	–	Ground terminal.
79	ADR15	I	Address signal input terminals.
80	ADR14	I	

2.3. IC10 on the Digital Board is using the Sync Signal and Burst Signal Separator IC YWAMSY10G.

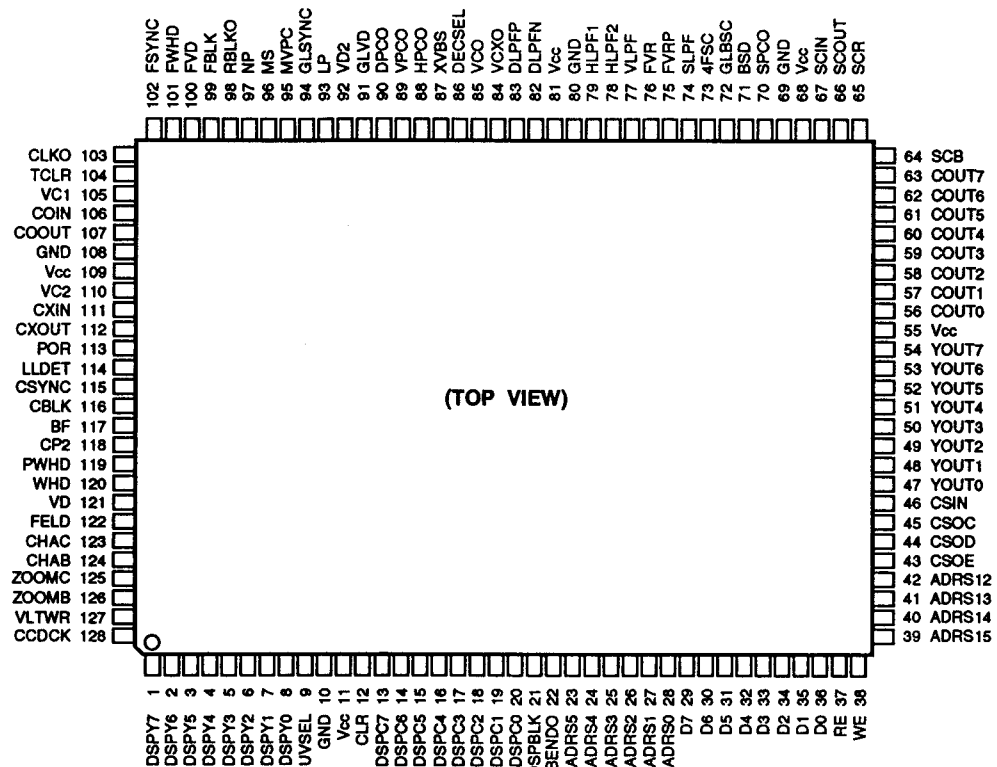
Description of this IC is as follows:



Pin	Name	I/O	Description
1	Vcc	–	Power supply terminal.
2	SS2	I	Video signal without subcarrier Clamp terminal with capacitor (In).
3	SS1	I	Video signal without subcarrier Clamp terminal with capacitor (Out).
4	SC	I	Phase Adjust DC input terminal.
5	SYNC	O	Separated Sync signal output terminal.
6	VREF	O	Reference DC output terminal.
7	GATE	I	Envelope output switching terminal for Burst signal.
8	BURST1	O	Envelope output terminal for Burst signal.
9	N.C.	–	Non connection.
10	GND	–	Ground terminal.
11	BSTPULSE	O	Burst Pulse output terminal.
12	BC2	I	DC Bias input terminal for Burst Pulse (In).
13	BC1	I	DC Bias input terminal for Burst Pulse (Out).
14	BIAS	I	Bias input terminal for Burst Pulse.
15	AGCOUT	I	Subcarrier signal output terminal. (1Vp-p)
16	APFIN	I	APF signal input terminal.
17	GL IN1	I	Video signal input terminal (1).
18	VD OUT	O	Vertical Drive Pulse output terminal.
19	VD IN	I	Vertical Drive Pulse input terminal.
20	GL IN2	I	Video signal input terminal (2).

2.4. IC9 on the Digital Board is using the Digital Encoder IC YWCF45107PGJ.

Description of this IC is as follows:



Pin	Name	I/O	Description
1	DSPY7	I	Luminance Data input terminals. (8-Bit)
2	DSPY6	I	
3	DSPY5	I	
4	DSPY4	I	
5	DSPY3	I	
6	DSPY2	I	
7	DSPY1	I	
8	DSPY0	I	
9	UVSEL	I	UV Selection signal input terminal.
10	GND	—	Ground terminal.
11	Vcc	—	Power supply terminal.
12	CLR	I	Clear signal input terminal.
13	DSPC7	I	Chrominance Data input terminals. (8-Bit)
14	DSPC6	I	
15	DSPC5	I	
16	DSPC4	I	
17	DSPC3	I	
18	DSPC2	I	
19	DSPC1	I	
20	DSPC0	I	
21	DSPBLK	I	Digital Blanking Pulse input terminal.

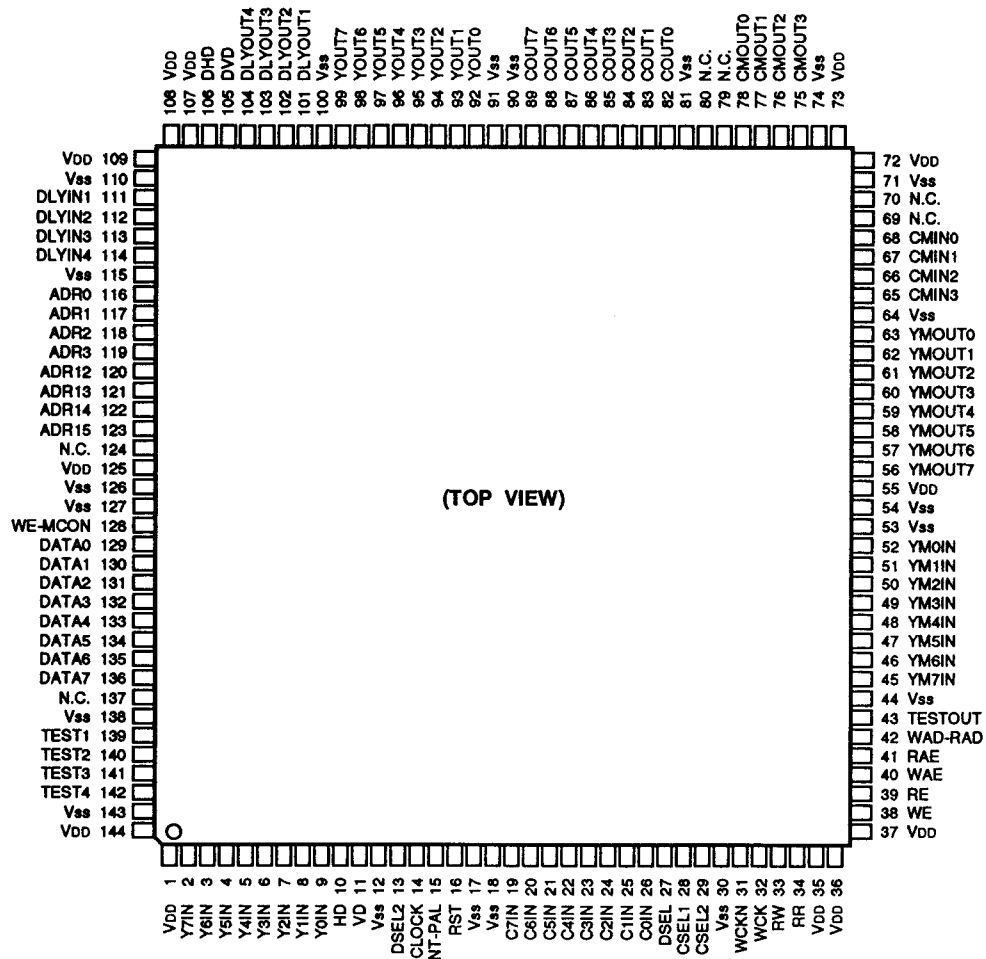
Pin	Name	I/O	Description
22	BENDO	O	Border End Pulse output terminal.
23	ADRS5	I	Address signal input terminals.
24	ADRS4	I	
25	ADRS3	I	
26	ADRS2	I	
27	ADRS1	I	
28	ADRS0	I	
29	D7	I/O	Data input/output terminals. (8-Bit)
30	D6	I/O	
31	D5	I/O	
32	D4	I/O	
33	D3	I/O	
34	D2	I/O	
35	D1	I/O	
36	D0	I/O	
37	RE	I	Read Enable signal input terminal.
38	WE	I	Write Enable signal input terminal.
39	ADRS15	I	Address signal input terminals.
40	ADRS14	I	
41	ADRS13	I	
42	ADRS12	I	

Pin	Name	I/O	Description
43	CSOE	O	Chip Select signal output terminal.
44	CSOD	O	Chip Select signal output terminal.
45	CSOC	O	Chip Select signal output terminal.
46	CSIN	I	Chip Select signal input terminal.
47	YOUT0	O	Luminance Data output terminals. (8-Bit)
48	YOUT1	O	
49	YOUT2	O	
50	YOUT3	O	
51	YOUT4	O	
52	YOUT5	O	
53	YOUT6	O	
54	YOUT7	O	
55	Vcc	–	Power supply terminal.
56	COUT0	O	Chrominance Data output terminals. (8-Bit)
57	COUT1	O	
58	COUT2	O	
59	COUT3	O	
60	COUT4	O	
61	COUT5	O	
62	COUT6	O	
63	COUT7	O	
64	SCB	I/O	Bch SC signal input/output terminal.
65	SCR	I/O	Rch SC signal input/output terminal.
66	SCOUT	O	SC signal output terminal.
67	SCIN	I	SC signal input terminal.
68	Vcc	–	Power supply terminal.
69	GND	–	Ground terminal.
70	SPCO	O	Phase Comparator output terminal.
71	BSD	I	Burst Detect signal input terminal.
72	GLBSC	I	G/L Burst signal input terminal.
73	4FSC	O	4FSC Clock Pulse output terminal.
74	SLPF	I	SLPF signal input terminal.
75	FVRP	I	FVRP signal input terminal.
76	FVR	I	FVR signal input terminal.
77	VLPF	I	VLPF signal input terminal.
78	HLPF2	I	HLPF2 signal input terminal.
79	HLPF1	I	HLPF1 signal input terminal.
80	GND	–	Ground terminal.
81	Vcc	–	Power supply terminal.
82	DLPFN	I	DLPFN signal input terminal.
83	DLPFP	I	DLPFP signal input terminal.
84	VCXO	O	VCXO signal output terminal.
85	VCO	O	VCO signal input terminal.
86	DECSEL	I	DECSEL signal input terminal.
87	XVBS	O	XVBS signal output terminal.
88	HPCO	O	Horizontal Phase Comparator output terminal.

Pin	Name	I/O	Description
89	VPCO	O	Vertical Phase Comparator output terminal.
90	DPCO	O	Phase Comparator output terminal.
91	GLVD	I	G/L VD signal input terminal.
92	VD2	I	VD2 signal input terminal.
93	LP	I	LP signal input terminal.
94	GLSYNC	I	G/L Sync signal input terminal.
95	MVPC	I	MVPC signal input terminal.
96	MS	I	MS signal input terminal.
97	NP	I	NTSC/PAL Selection signal input terminal.
98	RBLKO	I/O	Blanking Pulse input/output terminal.
99	FBLK	O	Blanking Pulse output terminal.
100	FVD	O	FVD signal input terminal.
101	FWHD	O	FWHD signal output terminal.
102	FSYNC	O	FSYNC signal output terminal.
103	CLKO	O	Clock Pulse output terminal.
104	TCLR	I	TCLR signal input terminal.
105	VC1	O	VC1 signal output terminal.
106	COIN	I	Phase Comparator input terminal.
107	COOUT	O	Phase Comparator output terminal.
108	GND	–	Ground terminal.
109	Vcc	–	Power supply terminal.
110	VC2	O	VC2 signal output terminal.
111	CXIN	I	Phase Comparator input terminal.
112	CXOUT	O	Phase Comparator output terminal.
113	POR	I	POR signal input terminal.
114	LLDET	I	Line Lock Detect signal input terminal.
115	CSYNC	O	Composite Sync signal output terminal.
116	CBLK	O	Composite Blanking signal output terminal.
117	BF	I/O	Burst Flag signal input/output terminal.
118	CP2	O	Clamp Pulse output terminal.
119	PWHD	I	PWHD signal input terminal.
120	WHD	I/O	WHD signal input/output terminal.
121	VD	O	VD signal output terminal.
122	FELD	I/O	FELD signal input/output terminal.
123	CHAC	I	CHAC signal input terminal.
124	CHAB	I	CHAB signal input terminal.
125	ZOOMC	I	ZOOMC signal input terminal.
126	ZOOMB	I	ZOOMB signal input terminal.
127	VLWTR	I	VLWTR signal input terminal.
128	CCDCK	I	CCDCK signal input terminal.

2.5. IC13 on the Digital Board is using the Memory Control Gate Array Logic IC YWL7A1220.

Description of this IC is as follows:



Pin	Name	I/O	Description
1	VDD	–	Power supply terminal.
2	Y7IN	I	Luminance Data input terminals. (8-Bit)
3	Y6IN	I	
4	Y5IN	I	
5	Y4IN	I	
6	Y3IN	I	
7	Y2IN	I	
8	Y1IN	I	
9	Y0IN	I	
10	HD	I	HD signal input terminal.
11	VD	I	VD signal input terminal.
12	Vss	–	Ground terminal.
13	DSEL2	I	DSEL2 signal input terminal.
14	CLOCK	I	Clock Pulse input terminal.
15	NT-PAL	I	NTSC/PAL selection terminal.

Pin	Name	I/O	Description
16	RST	I	Reset Pulse input terminal.
17	Vss	–	Ground terminal.
18	Vss	–	Ground terminal.
19	C7IN	I	Chrominance Data input terminals. (8-Bit)
20	C6IN	I	
21	C5IN	I	
22	C4IN	I	
23	C3IN	I	
24	C2IN	I	
25	C1IN	I	
26	C0IN	I	
27	DSEL	I	DSEL signal input terminal.
28	CSEL1	I	Chip Select signal input terminal.
29	CSEL2	I	Chip Select signal input terminal.
30	Vss	–	Ground terminal.

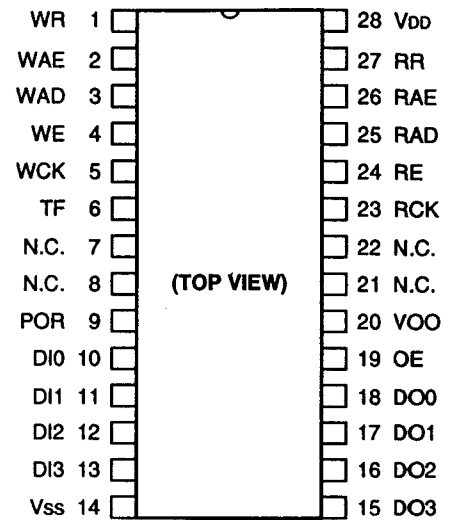
Pin	Name	I/O	Description
31	WCKN	O	Write Clock pulse output terminal.
32	WCK	O	Write Clock pulse output terminal.
33	RW	O	RW signal output terminal.
34	RR	O	RR signal output terminal.
35	VDD	–	Power supply terminal.
36	VDD	–	Power supply terminal.
37	VDD	–	Power supply terminal.
38	WE	O	Write Enable signal output terminal.
39	RE	O	Read Enable signal output terminal.
40	WAE	O	WAE signal output terminal.
41	RAE	O	RAE signal output terminal.
42	WAD-RAD	O	WAD-RAD signal output terminal.
43	TESTOUT	O	TESTOUT signal output terminal.
44	Vss	–	Ground terminal.
45	YM7IN	I	YM signal input terminals. (8-Bit)
46	YM6IN	I	
47	YM5IN	I	
48	YM4IN	I	
49	YM3IN	I	
50	YM2IN	I	
51	YM1IN	I	
52	YM0IN	I	
53	Vss	–	Ground terminal.
54	Vss	–	Ground terminal.
55	VDD	–	Power supply terminal.
56	YMOUT7	O	YM signal output terminals. (8-Bit)
57	YMOUT6	O	
58	YMOUT5	O	
59	YMOUT4	O	
60	YMOUT3	O	
61	YMOUT2	O	
62	YMOUT1	O	
63	YMOUT0	O	
64	Vss	–	Ground terminal.
65	CMIN3	I	CM signal input terminals. (4-Bit)
66	CMIN2	I	
67	CMIN1	I	
68	CMIN0	I	
69	N.C.	–	Non connection.
70	N.C.	–	Non connection.
71	Vss	–	Ground terminal.
72	VDD	–	Power supply terminal.
73	VDD	–	Power supply terminal.
74	Vss	–	Ground terminal.

Pin	Name	I/O	Description
75	CMOUT3	O	CM signal output terminals. (4-Bit)
76	CMOUT2	O	
77	CMOUT1	O	
78	CMOUT0	O	
79	N.C.	–	Non connection.
80	N.C.	–	Non connection.
81	Vss	–	Ground terminal.
82	COOUT0	O	Chrominance signal output terminals. (8-Bit)
83	COOUT1	O	
84	COOUT2	O	
85	COOUT3	O	
86	COOUT4	O	
87	COOUT5	O	
88	COOUT6	O	
89	COOUT7	O	
90	Vss	–	Ground terminal.
91	Vss	–	Ground terminal.
92	YOUT0	O	Luminance signal output terminals. (8-Bit)
93	YOUT1	O	
94	YOUT2	O	
95	YOUT3	O	
96	YOUT4	O	
97	YOUT5	O	
98	YOUT6	O	
99	YOUT7	O	
100	Vss	–	Ground terminal.
101	DLYOUT1	O	DLYOUT signal output terminals. (4-Bit)
102	DLYOUT2	O	
103	DLYOUT3	O	
104	DLYOUT4	O	
105	DVD	O	DVD signal output terminal.
106	DHD	O	DHD signal output terminal.
107	VDD	–	Power supply terminal.
108	VDD	–	Power supply terminal.
109	VDD	–	Power supply terminal.
110	Vss	–	Ground terminal.
111	DLYIN1	I	DLYIN signal input terminals (4-Bit)
112	DLYIN2	I	
113	DLYIN3	I	
114	DLYIN4	I	
115	Vss	–	Ground terminal.
116	ADR0	I	Address signal input terminals.
117	ADR1	I	
118	ADR2	I	
119	ADR3	I	

Pin	Name	I/O	Description
120	ADR12	I	Address signal input terminals.
121	ADR13	I	
122	ADR14	I	
123	ADR15	I	
124	N.C.	–	Non connection.
125	VDD	–	Power supply terminal.
126	Vss	–	Ground terminal.
127	Vss	–	Ground terminal.
128	WE-MCON	I	WE-MCON signal input terminal.
129	DATA0	I	Data input terminals. (8-Bit)
130	DATA1	I	
131	DATA2	I	
132	DATA3	I	
133	DATA4	I	
134	DATA5	I	
135	DATA6	I	
136	DATA7	I	
137	N.C.	–	Non connection.
138	Vss	–	Ground terminal.
139	TEST1	I	Test terminals.
140	TEST2	I	
141	TEST3	I	
142	TEST4	I	
143	Vss	–	Ground terminal.
144	VDD	–	Power supply terminal.

2.6. IC14 to IC16 on the Digital Board are using the 0.9M-Bit FIFO Field Memory IC MN4792S.

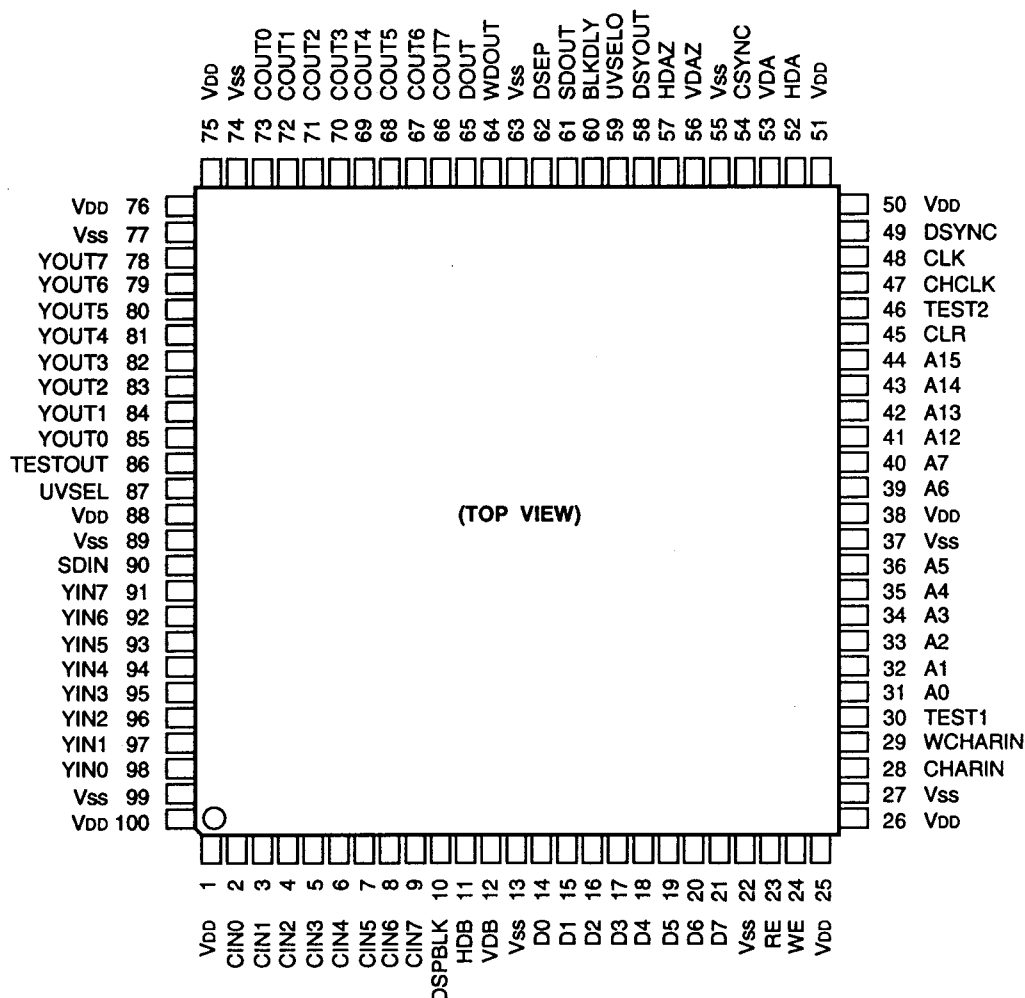
Description of this IC is as follows:



Pin	Name	I/O	Description
1	WR	I	WR signal input terminal.
2	WAE	I	WAE signal input terminal.
3	WAD	I	WAD signal input terminal.
4	WE	I	Write Enable signal input terminal.
5	WCK	I	Write Clock Pulse input terminal.
6	TF	I	TF signal input terminal.
7	N.C.	–	Non connection.
8	N.C.	–	Non connection.
9	POR	I	POR signal input terminal.
10	DI0	I	Data input terminals. (4-Bit)
11	DI1	I	
12	DI2	I	
13	DI3	I	
14	Vss	–	Ground terminal.
15	DO3	O	Data output terminals. (4-Bit)
16	DO2	O	
17	DO1	O	
18	DO0	O	
19	OE	I	OE signal input terminal.
20	VOO	O	VOO signal output terminal.
21	N.C.	–	Non connection.
22	N.C.	–	Non connection.
23	RCK	I	Read Clock Pulse input terminal.
24	RE	I	Read Enable signal input terminal.
25	RAD	I	RAD signal input terminal.
26	RAE	I	RAE signal input terminal.
27	RR	I	RR signal input terminal.
28	VDD	–	Power supply terminal.

2.7. IC17 on the Digital Board is using the Gate Array Logic IC YWL7A1219.

Description of this IC is as follows:



Pin	Name	I/O	Description
1	VDD	–	Power supply terminal.
2	CIN0	I	Chrominance Data input terminals. (8-Bit)
3	CIN1	I	
4	CIN2	I	
5	CIN3	I	
6	CIN4	I	
7	CIN5	I	
8	CIN6	I	
9	CIN7	I	
10	DSPBLK	I	Digital Blanking Pulse input terminal.
11	HDB	I	HD signal input terminal.
12	VDB	I	VD signal input terminal.
13	Vss	–	Ground terminal.
14	D0	O	Data output terminals. (8-Bit)
15	D1	O	

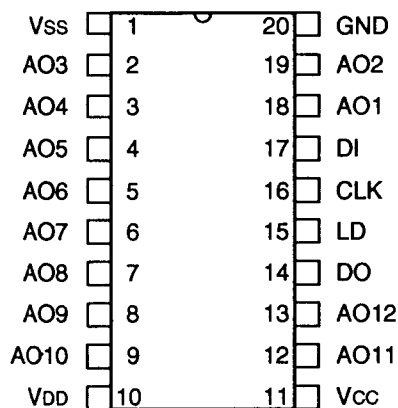
Pin	Name	I/O	Description
16	D2	O	Data output terminals. (8-Bit)
17	D3	O	
18	D4	O	
19	D5	O	
20	D6	O	
21	D7	O	
22	Vss	–	Ground terminal.
23	RE	I	Read Enable signal output terminal.
24	WE	I	Write Enable signal output terminal.
25	VDD	–	Power supply terminal.
26	VDD	–	Power supply terminal.
27	Vss	–	Ground terminal.
28	CHARIN	I	Character signal input terminal.
29	WCHARIN	I	Character signal input terminal.
30	TEST1	I	Test terminal.

Pin	Name	I/O	Description
31	A0	I	Address signal input terminals.
32	A1	I	
33	A2	I	
34	A3	I	
35	A4	I	
36	A5	I	
37	Vss	–	Ground terminal.
38	VDD	–	Power supply terminal.
39	A6	I	Address signal input terminals.
40	A7	I	
41	A12	I	
42	A13	I	
43	A14	I	
44	A15	I	
45	CLR	I	Clear signal input terminal.
46	TEST2	I	Test terminal.
47	CHCLK	I	Clock Pulse input terminal.
48	CLK	I	Clock Pulse input terminal.
49	DSYNC	I	D-Sync signal input terminal.
50	VDD	–	Power supply terminal.
51	VDD	–	Power supply terminal.
52	HDA	I	HD signal input terminal.
53	VDA	I	VD signal input terminal.
54	CSYNC	I	Composite Sync signal input terminal.
55	Vss	–	Ground terminal.
56	VDAZ	O	VD signal output terminal.
57	HDAZ	O	HD signal output terminal.
58	DSYOUT	O	D-Sync signal output terminal.
59	UVSELO	O	UV Selection signal output terminal.
60	BLKDLY	O	Blanking Pulse output terminal.
61	SDOUT	O	SDOUT signal output terminal.
62	DSEP	O	DSEP signal output terminal.
63	Vss	–	Ground terminal.
64	WDOUT	O	WDOUT signal output terminal.
65	DOUT	O	DOUT signal output terminal.
66	COUT7	O	Chrominance Data output terminals. (8-Bit)
67	COUT6	O	
68	COUT5	O	
69	COUT4	O	
70	COUT3	O	
71	COUT2	O	
72	COUT1	O	
73	COUT0	O	
74	Vss	–	Ground terminal.
75	VDD	–	Power supply terminal.
76	VDD	–	Power supply terminal.

Pin	Name	I/O	Description
77	Vss	–	Ground terminal.
78	YOUT7	O	Luminance Data output terminals. (8-Bit)
79	YOUT6	O	
80	YOUT5	O	
81	YOUT4	O	
82	YOUT3	O	
83	YOUT2	O	
84	YOUT1	O	
85	YOUT0	O	
86	TESTOUT	O	Test terminal.
87	UVSEL	I	UV Selection signal input terminal.
88	VDD	–	Power supply terminal.
89	Vss	–	Ground terminal.
90	SDIN	I	SD signal input terminal.
91	YIN7	I	Luminance Data input terminals. (8-Bit)
92	YIN6	I	
93	YIN5	I	
94	YIN4	I	
95	YIN3	I	
96	YIN2	I	
97	YIN1	I	
98	YIN0	I	
99	Vss	–	Ground terminal.
100	VDD	–	Power supply terminal.

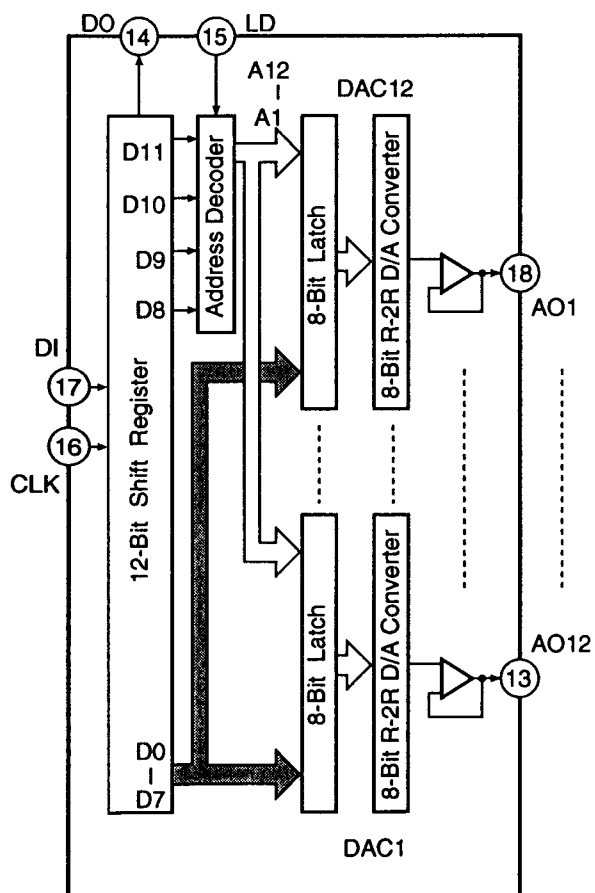
2.8. IC5 on the Digital Board is using the 12-ch D/A Converter IC YWMB88346BEF.

Description of this IC is as follows:



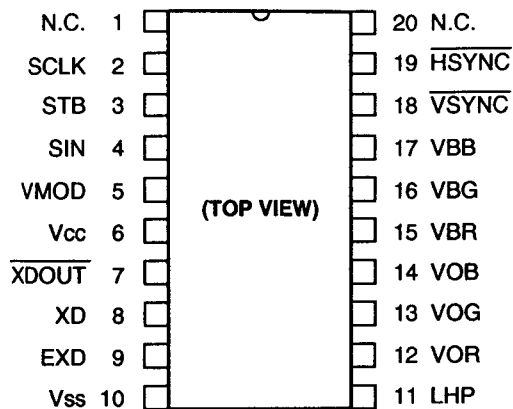
(TOP VIEW)

Pin	Name	I/O	Description
1	Vss	–	Ground terminal for D/A Converter circuit.
2	AO3	O	Analog Data 3 output terminal.
3	AO4	O	Analog Data 4 output terminal.
4	AO5	O	Analog Data 5 output terminal.
5	AO6	O	Analog Data 6 output terminal.
6	AO7	O	Analog Data 7 output terminal.
7	AO8	O	Analog Data 8 output terminal.
8	AO9	O	Analog Data 9 output terminal.
9	AO10	O	Analog Data 10 output terminal.
10	VDD	–	Power supply terminal for D/A Converter circuit.
11	Vcc	–	Power supply terminal for MCU Interface and Ope-Amp. circuits.
12	AO11	O	Analog Data 11 output terminal.
13	AO12	O	Analog Data 12 output terminal.
14	DO	O	MSB Data output terminal from 12-Bit Shift Register.
15	LD	I	Load signal input terminal. Data of 12-Bit Shift Register should be loaded to Decoder and D/A Output Registers when LD = H.
16	CLK	I	Shift Clock input terminal. Serial Data from DI terminal should be input to Decoder and 12-Bit Shift Register at falling edge of this signal.
17	DI	I	12-Bit Serial Data input terminal.
18	AO1	O	Analog Data 1 output terminal.
19	AO2	O	Analog Data 2 output terminal.
20	GND	–	Ground terminal for MCU Interface and Ope-Amp. circuits.

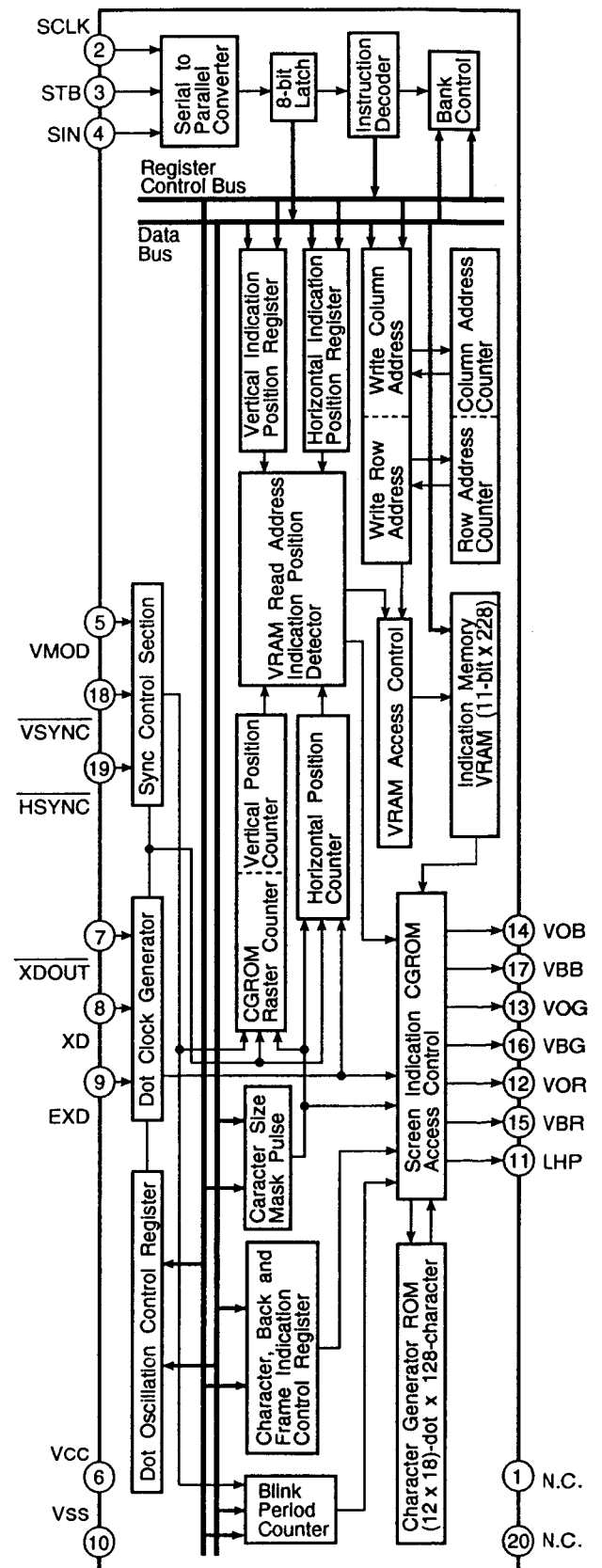


2.9. IC18 on the Digital Board is using the Character Generator IC MB90077PF104.

Description of this IC is as follows:

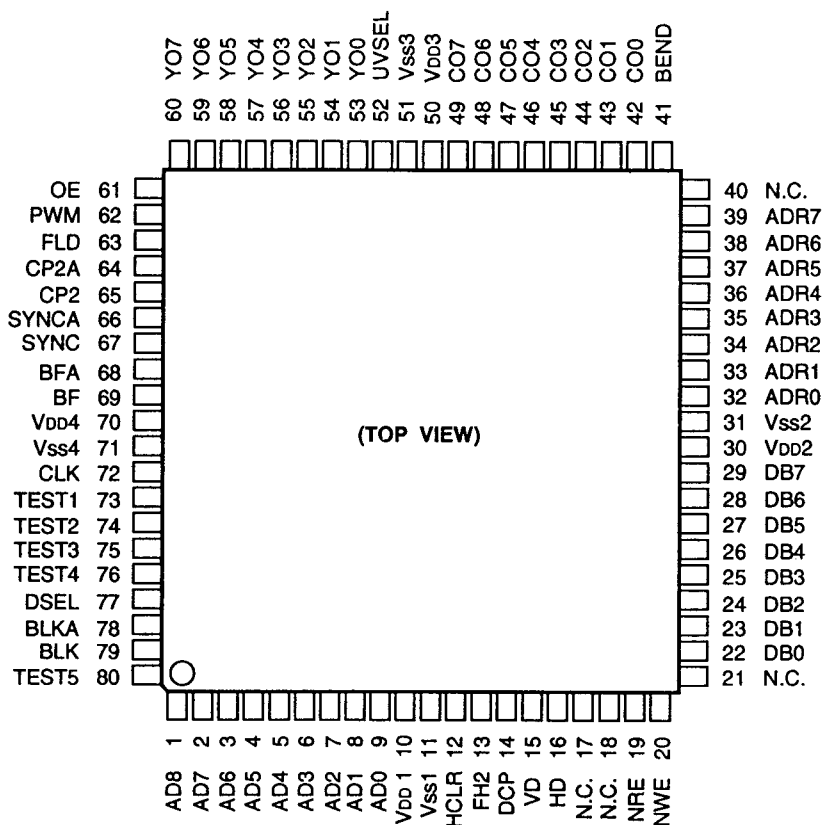


Pin	Name	In/Out	Description
1	N.C.	—	Non Connection
2	SCLK	In	Serial Clock input terminal.
3	STB	In	Strobe Signal input terminal Serial Data should be read at rising edge of this signal.
4	SIN	In	Serial Data Input terminal for indication control.
5	VMOD	In	Effective edge changing input terminal for Vertical Sync Signal. "H" = Rising edge "L" = Falling edge
6	Vcc	—	+5V
7	XDOUT	Out	Inverting output of XD signal.
8	XD	Out	External circuit terminals for Dot Clock Generator.
9	EXD	In	
10	Vss	—	Ground
11	LHP	Out	Line Hider Pulse output terminal.
12	VOR	Out	Color signal output terminals of RGB system.
13	VOG	Out	
14	VOB	Out	
15	VBR	Out	Blanking signal output terminals which indicating output of the character signal against the RGB system.
16	VBG	Out	
17	VBB	Out	
18	VSYNC	In	Vertical Sync signal input terminal.
19	HSYNC	In	Horizontal Sync signal input terminal.
20	N.C.	—	Non Connection



2.10. IC3 on the Digital Board is using the Y/C Digital Signal Processor IC MN673211M2U.

Description of this IC is as follows:



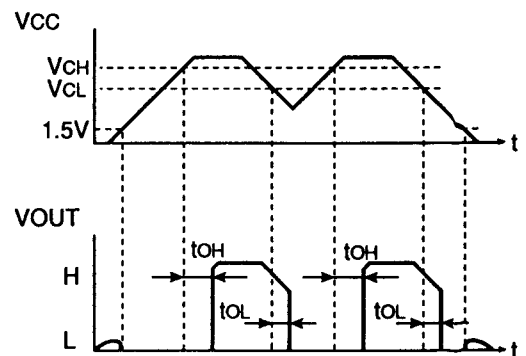
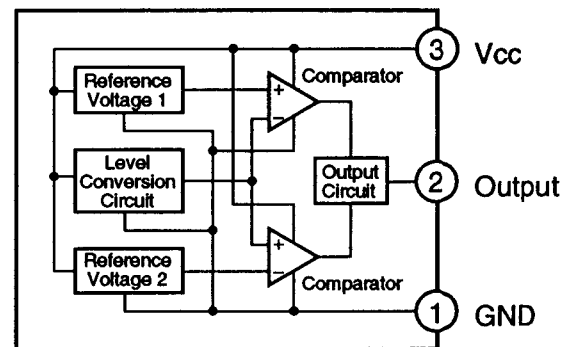
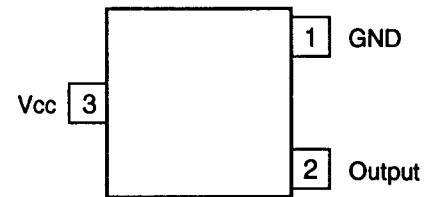
Pin	Name	I/O	Description
1	AD8	I	Video Signal Data input terminals from A/D Converters. (8-Bit)
2	AD7	I	
3	AD6	I	
4	AD5	I	
5	AD4	I	
6	AD3	I	
7	AD2	I	
8	AD1	I	
9	AD0	I	
10	VDD1	—	Power supply terminal.
11	VSS1	—	Ground terminal.
12	HCLR	I	HCLR Pulse input terminal.
13	FH2	I	FH2 signal input terminal.
14	DCP	I	Clamp Pulse input terminal for Digital circuit.
15	VD	I	Vertical Drive Pulse input terminal.
16	HD	I	Horizontal Drive Pulse input terminal.
17	N.C.	—	Non connection.
18	N.C.	—	Non connection.
19	NRE	I	Read Enable signal input terminal.

Pin	Name	I/O	Description
20	NWE	I	Write Enable signal input terminal.
21	N.C.	—	Non connection.
22	DB0	I/O	Data Bus terminals between Microprocessor. (8-Bit)
23	DB1	I/O	
24	DB2	I/O	
25	DB3	I/O	
26	DB4	I/O	
27	DB5	I/O	
28	DB6	I/O	
29	DB7	I/O	
30	VDD2	—	Power supply terminal.
31	VSS2	—	Ground terminal.
32	ADR0	I	Address signal input terminals from Microprocessor. (8-Bit)
33	ADR1	I	
34	ADR2	I	
35	ADR3	I	
36	ADR4	I	
37	ADR5	I	
38	ADR6	I	
39	ADR7	I	

Pin	Name	I/O	Description
40	N.C.	–	Non connection.
41	BEND	O	Block Average Data Interrupt signal output terminal.
42	CO0	O	Chroma Signal Data output terminals. (8-Bit)
43	CO1	O	
44	CO2	O	
45	CO3	O	
46	CO4	O	
47	CO5	O	
48	CO6	O	
49	CO7	O	
50	VDD3	–	Power supply terminal.
51	VSS3	–	Ground terminal.
52	UVSEL	O	U/V Signal Switching Pulse output terminal.
53	YO0	O	Luminance Signal Data output terminals. (8-Bit)
54	YO1	O	
55	YO2	O	
56	YO3	O	
57	YO4	O	
58	YO5	O	
59	YO6	O	
60	YO7	O	
61	OE	I	Output Enable signal input terminal.
62	PWM	O	PWM signal output terminal for Lens Iris Control.
63	FLD	O	FLD signal output terminal.
64	CP2A	O	Clamp Pulse (CP2) output terminal.
65	CP2	I	Clamp Pulse (CP2) input terminal.
66	SYNCA	O	Composite Sync signal output terminal.
67	SYNC	I	Composite Sync signal input terminal.
68	BFA	O	Burst Flag Pulse output terminal for Encoder.
69	BF	I	Burst Flag Pulse input terminal.
70	VDD4	–	Power supply terminal.
71	VSS4	–	Ground terminal.
72	CLK	I	Clock Pulse input terminal.
73	TEST1	I	Test terminals. (Normally fixed at low.)
74	TEST2	I	
75	TEST3	I	
76	TEST4	I	
77	OSEL	I	1 Clock Delay selection signal input terminal.
78	BLKA	O	Blanking Pulse output terminal for Encoder.
79	BLK	O	Blanking Pulse input terminal.
80	TEST5	I	Test terminal. (Normally fixed at low.)

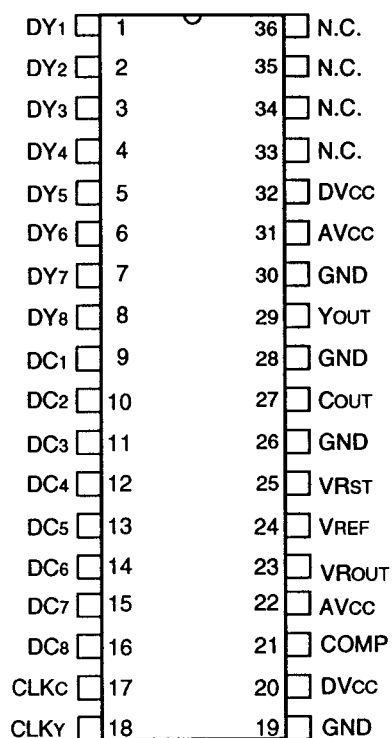
2.11. IC2 on the Digital Board is using the 3.5V Reset IC MN13821.

Description of this IC is as follows:

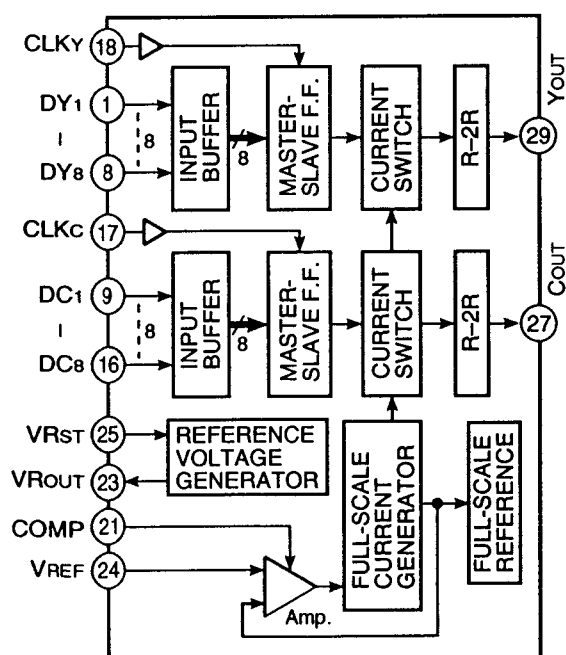


2.12. IC11 on the Digital Board is using the 2-ch 8-Bit D/A Converter IC YWUPC664GS.

Description of this IC is as follows:



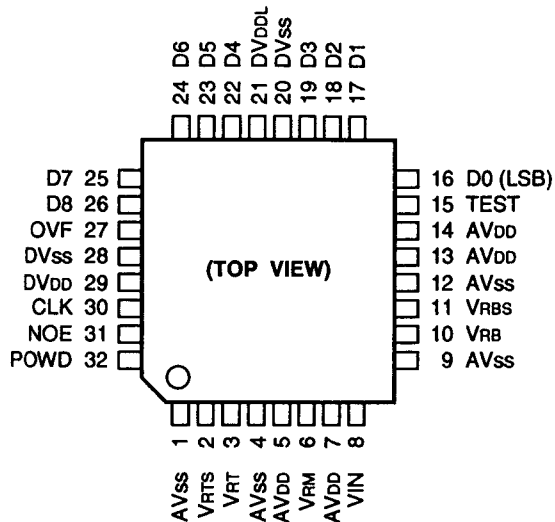
(TOP VIEW)



Pin	Name	I/O	Description
1	DY1	I	Y-ch Digital input terminal (MSB).
2	DY2	I	Y-ch Digital input terminal (2nd.).
3	DY3	I	Y-ch Digital input terminal (3rd.).
4	DY4	I	Y-ch Digital input terminal (4th.).
5	DY5	I	Y-ch Digital input terminal (5th.).
6	DY6	I	Y-ch Digital input terminal (6th.).
7	DY7	I	Y-ch Digital input terminal (7th.).
8	DY8	I	Y-ch Digital input terminal (LSB).
9	DC1	I	C-ch Digital input terminal (MSB).
10	DC2	I	C-ch Digital input terminal (2nd.).
11	DC3	I	C-ch Digital input terminal (3rd.).
12	DC4	I	C-ch Digital input terminal (4th.).
13	DC5	I	C-ch Digital input terminal (5th.).
14	DC6	I	C-ch Digital input terminal (6th.).
15	DC7	I	C-ch Digital input terminal (7th.).
16	DC8	I	C-ch Digital input terminal (LSB).
17	CLKc	I	C-ch Clock input terminal.
18	CLKy	I	Y-ch Clock input terminal.
19	GND	—	Ground terminal.
20	DVcc	—	Power Supply terminal for Digital Circuit.
21	COMP	I	Phase Compensation input terminal.
22	AVcc	—	Power supply terminal for Analog Circuit.
23	VRout	O	Reference Voltage output terminal.
24	VREF	I	Reference Voltage input terminal.
25	VRST	I	Reference Voltage adjustment terminal.
26	GND	—	Ground terminal.
27	COUT	O	C-ch output terminal.
28	GND	—	Ground terminal.
29	YOUT	O	Y-ch output terminal.
30	GND	—	Ground terminal.
31	AVcc	—	Power supply terminal for Analog Circuit.
32	DVcc	—	Power supply terminal for Digital Circuit.
33	N.C.	—	Non Connection.
34	N.C.	—	Non Connection.
35	N.C.	—	Non Connection.
36	N.C.	—	Non Connection.

2.13. IC1 on the Digital Board is using the 9-Bit A/D Converter IC MN6576.

Description of this IC is as follows:

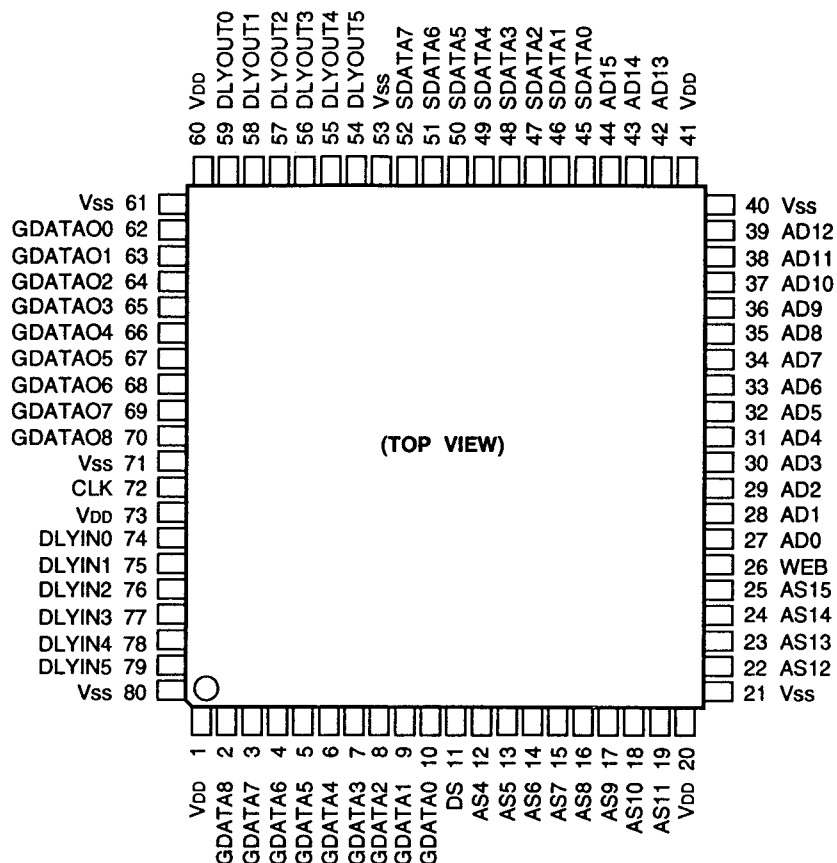


Pin	Name	I/O	Description
22	D4	O	Digital signal output terminals. (9-Bit)
23	D5	O	
24	D6	O	
25	D7	O	
26	D8	O	(MSB)
27	OVF	O	Overflow output terminal.
28	DVss	–	Ground terminal for Digital circuit.
29	DVDD	–	Power supply terminal for Digital circuit.
30	CLK	I	Sampling Clock Pulse input terminal.
31	NOE	I	Output Enable signal input terminal.
32	POWD	I	Power Down Mode switching terminal.

Pin	Name	I/O	Description
1	AVss	–	Ground terminal for Analog circuit.
2	VRTS	O	Top reference voltage output terminal.
3	VRT	I	Top reference voltage input terminal.
4	AVss	–	Ground terminal for Analog circuit.
5	AVDD	–	Power supply terminal for Analog circuit.
6	VRM	–	Center reference voltage terminal.
7	AVDD	–	Power supply terminal for Analog circuit.
8	VIN	I	Analog signal input terminal.
9	AVss	–	Ground terminal for Analog circuit.
10	VRB	I	Bottom reference voltage input terminal.
11	VRBS	O	Bottom reference voltage output terminal.
12	AVss	–	Ground terminal for Analog circuit.
13	AVDD	–	Power supply terminal for Analog circuit.
14	AVDD	–	Power supply terminal for Analog circuit.
15	TEST	I	Test Mode Switching terminal.
16	D0	O	(LSB)
17	D1	O	Digital signal output terminals. (9-Bit)
18	D2	O	
19	D3	O	
20	DVss	–	
21	DVDDL	I	Low voltage power supply terminal for Digital signal output circuit.

2.14. IC12 on the Digital Board is using the Digital Noise Reduction Gate Array Logic IC YWM60071FP.

Description of this IC is as follows:



Pin	Name	I/O	Description
1	VDD	–	Power supply terminal.
2	GDATA8	I	G-Data input terminals. (9-Bit)
3	GDATA7	I	
4	GDATA6	I	
5	GDATA5	I	
6	GDATA4	I	
7	GDATA3	I	
8	GDATA2	I	
9	GDATA1	I	
10	GDATA0	I	
11	DS	I	DS signal input terminal.
12	AS4	I	AS signal input terminals.
13	AS5	I	
14	AS6	I	
15	AS7	I	
16	AS8	I	
17	AS9	I	
18	AS10	I	
19	AS11	I	

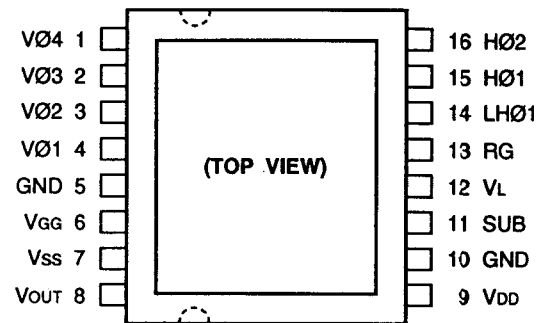
Pin	Name	I/O	Description
20	VDD	–	Power supply terminal.
21	VSS	–	Ground terminal.
22	AS12	I	AS signal input terminals.
23	AS13	I	
24	AS14	I	
25	AS15	I	
26	WEB	I	Write Enable signal input terminal.
27	AD0	I	Address signal input terminals. (16-Bit)
28	AD1	I	
29	AD2	I	
30	AD3	I	
31	AD4	I	
32	AD5	I	
33	AD6	I	
34	AD7	I	
35	AD8	I	
36	AD9	I	
37	AD10	I	
38	AD11	I	

Pin	Name	I/O	Description
39	AD12	I	Address signal input terminal. (16-Bit)
40	Vss	–	Ground terminal.
41	VDD	–	Power supply terminal.
42	AD13	I	Address signal input terminals. (16-Bit)
43	AD14	I	
44	AD15	I	
45	SDATA0	I/O	S-Data input/output terminals. (8-Bit)
46	SDATA1	I/O	
47	SDATA2	I/O	
48	SDATA3	I/O	
49	SDATA4	I/O	
50	SDATA5	I/O	
51	SDATA6	I/O	
52	SDATA7	I/O	
53	Vss	–	Ground terminal.
54	DLYOUT5	O	Delay Out signal output terminals.
55	DLYOUT4	O	
56	DLYOUT3	O	
57	DLYOUT2	O	
58	DLYOUT1	O	
59	DLYOUT0	O	
60	VDD	–	Power supply terminal.
61	Vss	–	Ground terminal.
62	GDATAO0	O	G-Data output terminals. (8-Bit)
63	GDATAO1	O	
64	GDATAO2	O	
65	GDATAO3	O	
66	GDATAO4	O	
67	GDATAO5	O	
68	GDATAO6	O	
69	GDATAO7	O	
70	GDATAO8	O	
71	Vss	–	Ground terminal.
72	CLK	I	Clock Pulse input terminal.
73	VDD	–	Power supply terminal.
74	DLYIN0	I	Delay In signal input terminals.
75	DLYIN1	I	
76	DLYIN2	I	
77	DLYIN3	I	
78	DLYIN4	I	
79	DLYIN5	I	
80	Vss	–	Ground terminal.

3. Sensor Board

3.1. IC1 on the Sensor Board is using the CCD Image Sensor IC YWICX058AKA.

Description of this IC is as follows:

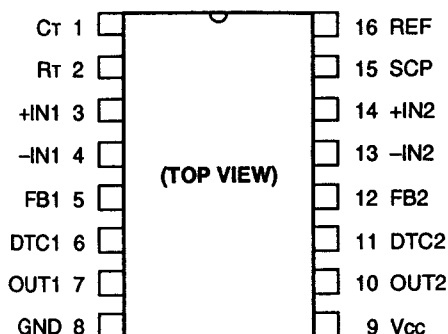


Pin	Name	I/O	Description
1	V04	I	Vertical Register Transfer Clock Pulse input terminal.
2	V03	I	Vertical Register Transfer Clock Pulse input terminal.
3	V02	I	Vertical Register Transfer Clock Pulse input terminal.
4	V01	I	Vertical Register Transfer Clock Pulse input terminal.
5	GND	–	Ground terminal.
6	VGG	–	Gate Bias supply terminal for Output Amplifier.
7	Vss	–	Source of Output Amplifier.
8	VOUT	O	Signal output terminal.
9	VDD	–	Power supply terminal for Drain of Output Amplifier.
10	GND	–	Ground terminal.
11	SUB	–	Board (Overflow Drain).
12	VL	I	Bias supply terminal for protection transistor.
13	RG	I	Reset Gate Clock Pulse input terminal.
14	LH01	I	Transfer Clock Pulse input terminal for last stage of Horizontal Register.
15	H01	I	Horizontal Register Transfer Clock Pulse input terminal.
16	H02	I	Horizontal Register Transfer Clock Pulse input terminal.

4. Rear Board

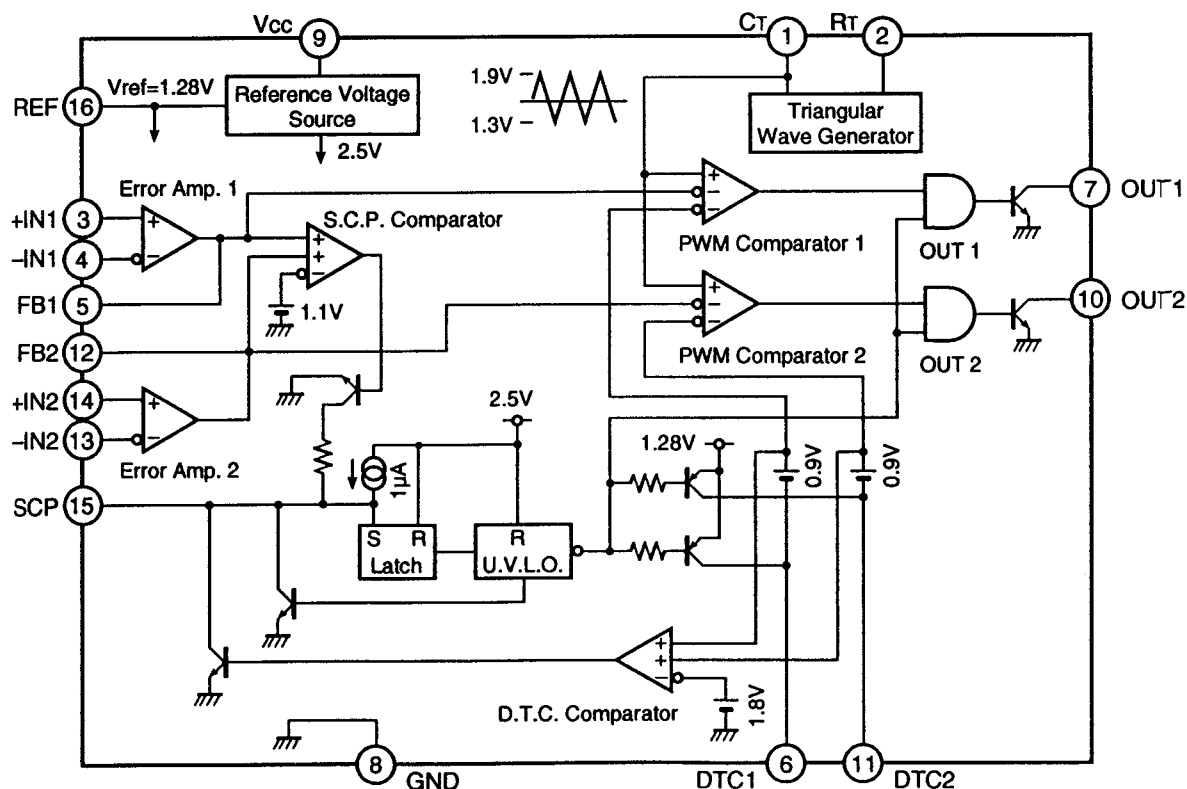
4.1. IC7 on the Rear Board is using the Switching Regulator Controller IC YWMB3775PFV.

Description of this IC is as follows:



DTC : Dead Time Control
SCP : Short Circuit Protection

Pin	Name	I/O	Description
1	CT	–	Timing capacitor connecting terminal.
2	RT	–	Timing resistor connecting terminal.
3	+IN1	I	Non-invereting input terminal for Error Amplifier 1.
4	–IN1	I	Invereting input terminal for Error Amplifier 1.
5	FB1	–	Feedback terminal for Error Amplifier 1.
6	DTC1	I	DTC 1 signal input terminal.
7	OUT1	O	Control signal output terminal 1.
8	GND	–	Ground terminal.
9	Vcc	–	Power supply terminal.
10	OUT2	O	Control signal output terminal 2.
11	DTC2	I	DTC 2 signal input terminal.
12	FB2	–	Feedback terminal for Error Amplifier 2.
13	–IN2	I	Invereting input terminal for Error Amplifier 2.
14	+IN2	I	Non-invereting input terminal for Error Amplifier 2.
15	SCP	–	Short Circuit Protection terminal.
16	REF	O	Reference voltage output terminal.



Modification Procedure for E.V.R. Adjustment Kit

- Before start to adjust the WV-CP610, your E.V.R. Adjustment Kit have to be modified for up-to-date version.

- The modification procedure is as follows:

- Referring to Fig. 1, remove four screws fixing the Upper Cover of the E.V.R. Adjustment Kit.

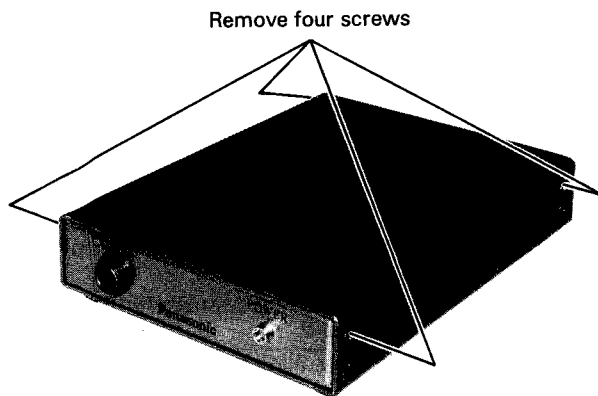


Fig. 1

- Referring to Fig. 2, remove IC5 (ROM IC) on the Main Board of the E.V.R. Adjustment Kit.

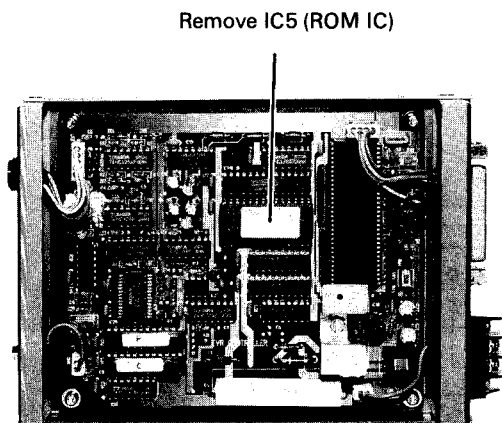


Fig. 2

- Insert the new ROM IC with IC Socket to the Main Board of the E.V.R. Adjustment Kit.
- Mount the Upper Cover of the E.V.R. Adjustment Kit.
- The part number of new ROM IC with IC Socket for E.V.R. Adjustment Kit is YWV0EA0274AN.

About Your Computer

In order to run the E.V.R. (Electric Variable Resistor) adjustment program your IBM-PC/AT Type or compatible must meet the following requirements:

- The DOS Operating System must be 3.3 or higher.
- The Operating System must be 100% compatible with your computer.
- The memory in your IBM-PC must be at least 640K-bytes, and 512K-bytes shall be available to the E.V.R. adjustment program.

Installing E.V.R. Adjustment Program

- The Example given here is for A 2 drive computer, your procedure might vary slightly depending on drive configuration.
- Formatting new disk and making a copy of DOS Operating System.
 - a) Insert disk containing DOS operating system into your floppy drive (for example, drive A) and type **A:**
 - b) Insert new disk into your floppy drive (for example, drive B).
 - c) Format and make a copy of DOS operating system from your original disk to new disk by typing **FORMAT B: / S** and press the **ENTER** key.
 - d) Type **COPY ANSI. SYS B:** and press the **ENTER** key.
- Install E.V.R. Adjustment Program onto formatted new disk with DOS operating system.
 - e) Take out original disk containing DOS operating system from your floppy drive (drive A) and insert disk containing E.V.R. adjustment program into your floppy drive (drive A) and type **A:**
 - f) At the prompt, type **CD IBMPC** and press the **ENTER** key.
 - g) If required, type **COPY CONFIG. SYS B:** and press the **ENTER** key.
 - h) Type **CD NTSC** for NTSC.
 - i) Type **COPY ADJ2. EXE B:** and press the **ENTER** key.
 - j) Type **CD ** and press the **ENTER** key.
 - k) Type **CD SEQ** and press the **ENTER** key.
 - l) Type **COPY CP610E. SEQ B:** and press the **ENTER** key.
 - m) Type **CD ** and press the **ENTER** key.
 - n) Type **CD EVR** and press the **ENTER** key.
 - o) Type **COPY CP610E. EVR B:** and press the **ENTER** key.
 - p) After completing installation of program, you are ready to use the E.V.R. adjustment program.

Note:

When completed the new disk should be a bootable disk which contains the following files:

- | | |
|------------|-----|
| 1. COMMAND | COM |
| 2. ANSI | SYS |
| 3. CONFIG | SYS |
| 4. ADJ2E | EXE |
| 5. CP610E | SEQ |
| 6. CP610E | EVR |

ADJUSTMENT PROCEDURE

1. Test Equipment Required

- The following test Equipments are required for adjustment of the Colour CCTV Camera WV-CP610, WV-CP612 and WV-CP614.
- Oscilloscope
- Frequency Counter
- Digital Voltmeter
- Vectorscope
- Waveform Monitor
- Underscanned Colour Video Monitor
- 12 V DC Power Supply Unit
- Lux Meter
- Lighting (140 footcandles (1,400 lux), Colour Temperature 3,200K)
- Personal Computer (IBM PC/AT type or equivalent)
- Standard Straight RS-232C Cable
- White Chart or White Paper
- ALC Lens (WV-LA12 or equivalent)
- Manual Iris Lens
- Radiation Chart
- Colour Temperature Conversion Filters as shown in the Table 1-1.

	Part No.	Description
KODAK	80B	More than 3x3 cm (1 sheet)
FUJI	LBB-12	More than 3x3 cm (1 sheet)
KENKO	C12	More than 20mmø (1 Piece)
HOYA	LB-120	More than 20mmø (1 Piece)
NICON	B12	More than 20mmø (1 Piece)

Table 1-1

- Logarithmic Gray Scale Chart (Part Number: YWV2310RB99) as shown Fig. 1-1.

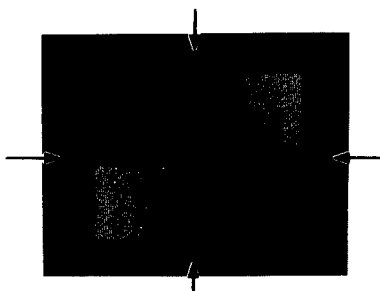


Fig. 1-1

- Colour Chip Chart (Part Number: YWV2100RB98) as shown in Fig. 1-2.

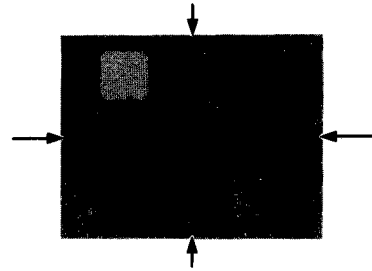
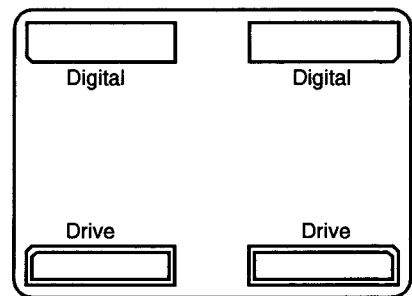
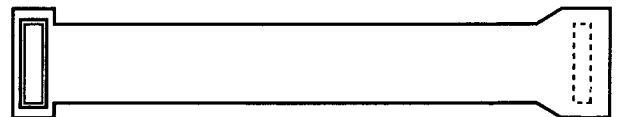


Fig. 1-2

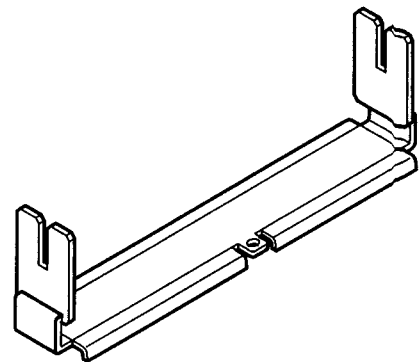
- Extension Board Ass'y as shown in Fig. 1-3.
(Following Extension Board, Extension Cable and Mounting Bracket are included.)
(Part Number : YWV0EA0326AN)



(Extension Board)



(Extension Cable)



(Mounting Bracket)

Fig. 1-3

- Electric Variable Resistor (E.V.R.) kit (Part No.: YWV0EA0182AN) as shown in Fig. 1-4.

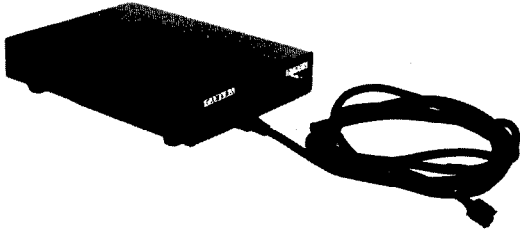


Fig. 1-4

2. Disassembling Procedure for Adjustment

- Referring to Fig. 2-1, remove two screws that secure the Camera Mounting and remove the Camera Mounting.

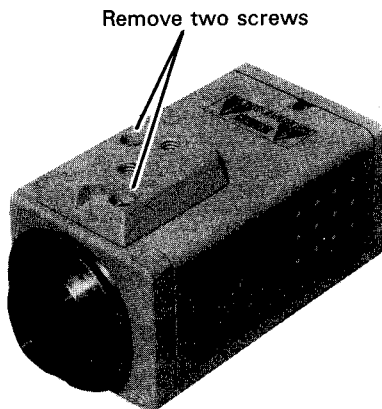


Fig. 2-1

- Referring to Fig. 2-2, remove two screws that secure the Bottom Cover and remove the Bottom Cover.

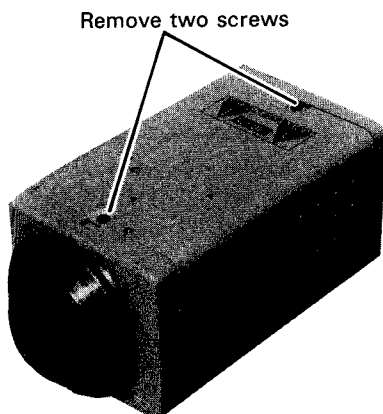


Fig. 2-2

- Referring to Fig. 2-3, disconnect the connectors CN1 and CN6 from the Drive Board and remove one screw that secure the Drive Board and Digital Board, and remove the Drive Board and Digital Board.

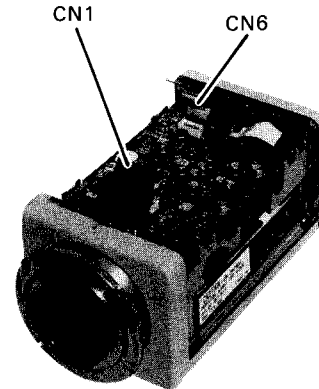


Fig. 2-3

- Referring to Fig. 2-4, mount the Mounting Bracket by removed screw.

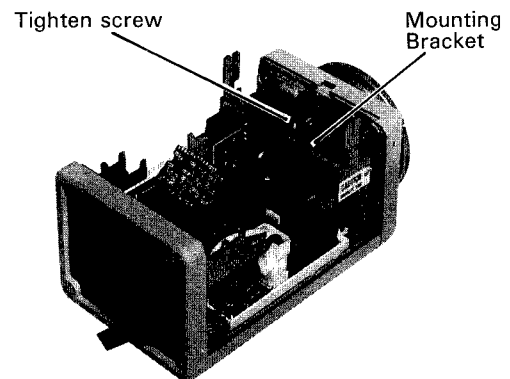


Fig. 2-4

- Referring to Fig. 2-5, connect the Drive Board and Digital Board by the Extension Board.

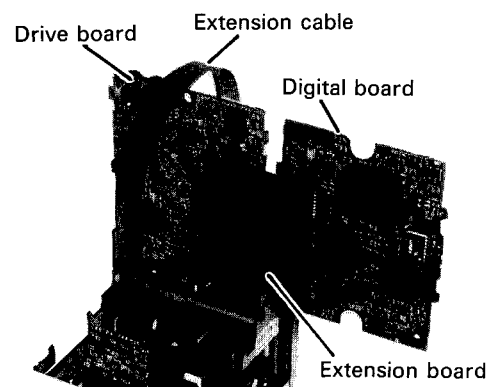


Fig. 2-5

- Referring to Fig. 2-6, place the Drive Board and connect the connectors CN6 on the Drive Board and CN1 on the Rear Board by the Extension Cable.

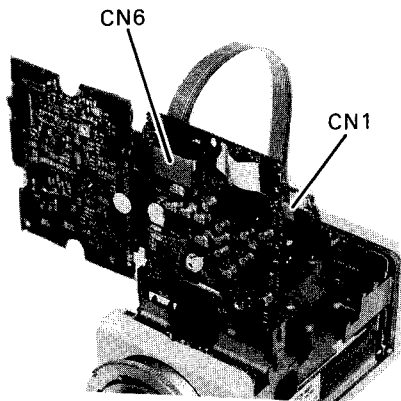


Fig. 2-6

3. Head Optical Ass'y Replacement Procedure

- Disassembling the Camera while referring to the 2. **Disassembling Procedure for adjustment.**
- Referring to Fig. 3-1, remove one screw that secure the Front Chassis and remove the Front Chassis.

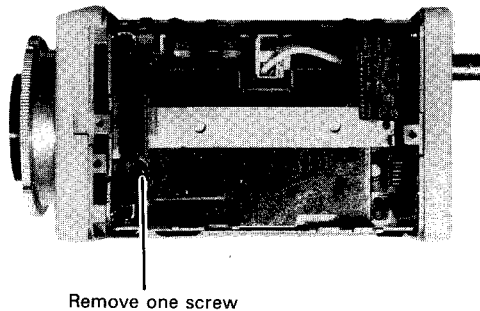


Fig. 3-1

- Referring to Fig. 3-2, remove one screw that secure the ALC Board and disconnect CN1 from the Sensor Board.
- Referring to Fig. 3-2, remove the ALC connector (CN2) from the Front Chassis and remove the ALC Board.

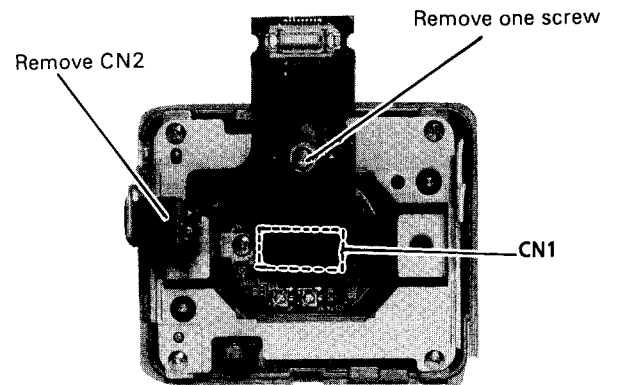


Fig. 3-2

- Referring to Fig. 3-3, remove four screws that secure the Front Chassis and remove the Head Optical Ass'y.

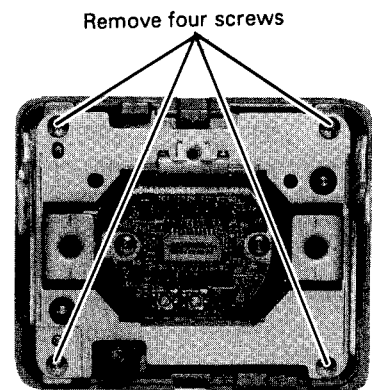


Fig. 3-3

4. Connection and Setting Up for Adjustment

4.1. Connection

- The Fig. 4-1 shows the connection diagram for the adjustment procedure.

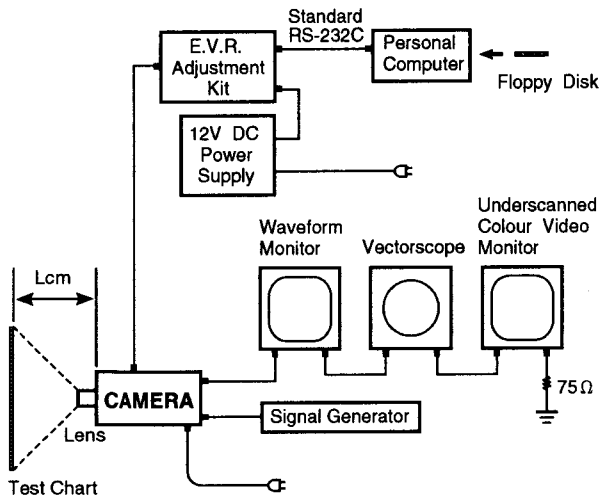


Fig. 4-1

- Connect the Underscanned Colour Video Monitor through the Waveform Monitor and Vectorscope to the Video Output Connector on the rear panel of the WV-CP610, WV-CP612 or WV-CP614 using the coaxial cables.
- Terminate the input terminal of the Underscanned Colour Video Monitor with 75 Ω .
- For the WV-CP614**, connect the AC 24V Power Unit to the AC 24V IN Terminal on the Rear Panel of the WV-CP614.
- For the WV-CP612**, connect the DC 12V Power Unit to the DC 12V IN Terminal on the Rear Panel of the WV-CP612.
- Connect the probe of the Digital Voltmeter, Oscilloscope or Frequency Counter at the desired Test Point in each adjustment step.

4.2. Initial Position of the Switches for Adjustment

- An initial setting of the Switches on the Rear Panel of the WV-CP610, WV-CP612 and WV-CP614 as follows:
 Lens Selection Switch (VIDEO/DC) DC
 Gen-Lock Termination Switch (G/L 75 Ω /Hi-Z) 75 Ω
- The adjustments should be done with this initial setting, unless otherwise specified.

4.3. Setting Up for Standard Picture

- The adjustment should be done after 25 minutes warm-up.
- Set the Logarithmic Gray Scale Chart.
- Incident light of $1,400 \pm 50$ lux on the Logarithmic gray Scale Chart.
- Aim the Camera at the Logarithmic Gray Scale Chart.
- Set the Camera so that the Logarithmic Gray Scale Chart becomes full picture on the Underscanned Colour Video Monitor.
- Connect the Oscilloscope to pin 1 (CDSOUT) of CN2 on the Drive Board.
- Adjust the Lens Focus to obtain correct focal point.
- Set the LENS Iris so that the peak level of the Gray scale from the blanking level becomes 300mVp-p as shown in Fig. 4-2.

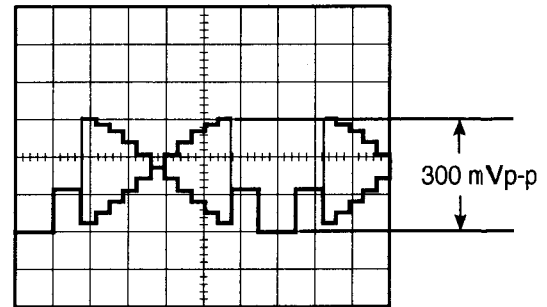


Fig. 4-2

- The adjustments should be done with this Standard Picture, unless otherwise specified.

5. Adjustment Procedure

- Refer to the Location of the Test Points and Adjusting Controls on the page 56.

■ Adjustment Procedure-1

1. Vsub Adjustment

Test Point: TD3 (Vsub)

Sensor Board

Adjust: VR2 (Vsub)

Sensor Board

- Connect the Digital Voltmeter to TD3.
- Adjust VR2 to obtain indicated voltage $\pm 0.03\%$ on the Sensor Board as shown in Table 5-1.

Rank	E	f	G	f	J	K	L	m	N	P
Voltage	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5
Rank	Q	R	S	T	U	V	W	X	Y	Z
Voltage	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5

Table 5-1

- Mount the F1.4 Manual Iris Lens on the Camera and open the Iris fully.
- Aim the Camera at the bright object such as 40-watt lamp.
- While observing the picture on the Video Monitor, adjust VR2 so that the blooming becomes minimum as shown in Fig. 5-1.

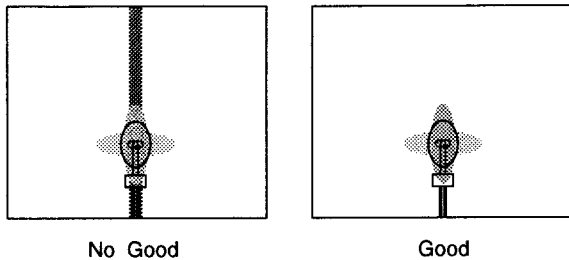


Fig. 5-1

2. Reset Bias Adjustment

Test Point: TD1 (RESET BIAS)

Sensor Board

Adjust: VR1 (RESET BIAS)

Sensor Board

- Connect the Oscilloscope to TD1.
- Adjust VR2 to obtain indicated voltage $\pm 0.03V$ on the Sensor Board as shown in Table 5-2 and Fig. 5-2.

Rank	1	2	3	4	5	6	7
Voltage	1.0	1.5	2.0	2.5	3.0	3.5	4.0

Table 5-2

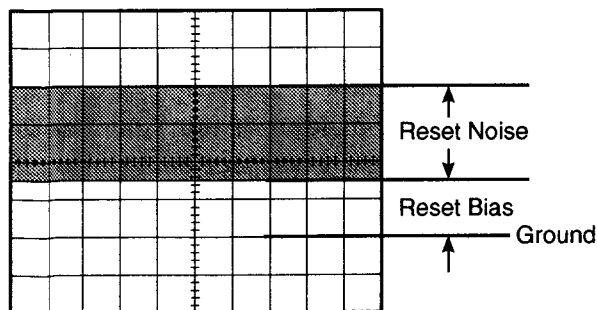


Fig. 5-2

3. Drive VCO Adjustment

Test Point: TP1 (VCO)

Drive Board

Adjust: L1 (VCO)

Drive Board

- Connect the Digital Voltmeter to TP1.
- Adjust L1 to obtain $1.7V \pm 0.2V$.

4. VS VCO Adjustment

Test Point: TP2 (VS VCO)

Digital Board

Adjust: L1 (VS VCO)

Digital Board

- Supply the Composite Video signal to the Gen-Lock Input Connector on the Rear Panel of the Camera.
- Connect the Digital Voltmeter to TP2.
- Adjust L1 to obtain $1.7V \pm 0.2V$.

5. Flangeback Adjustment

Test Point: Video Output Connector

Rear Panel

Adjust: Flangeback Adjusting Ring

- Set the Radiation Chart.
- Aim the Camera at the Radiation Chart distance of 10m.
- Set the Lens Focus Ring so that the Lens Focus becomes approx. 9mm in front from infinity.
- Referring to Fig. 5-3, loosen two screws that secure the Flangeback Adjusting Ring.

Loosen two screws.

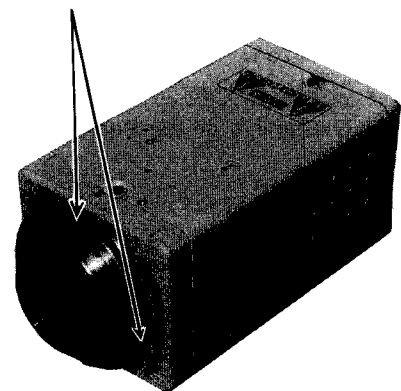


Fig. 5-3

- Adjust the Flangeback Adjusting Ring to obtain best focal point.
- Tighten two screws that secure the Flangeback Adjusting Ring carefully.

■ Adjustment Procedure-2 (E.V.R.) Adjustment

- Connect the E.V.R. Adjustment Kit to CN3 on the Drive Board using extension cables supplied.
- Connect the E.V.R. Adjustment Kit to IBM PC/AT type using the Standard Straight RS-232C cable.
- Insert new disk containing DOS Operating System and the E.V.R. Adjustment program into IBM PC/AT and turns on the Power Switch of IBM PC/AT.
- At the prompt, type **ADJ2E CP610E** and press the **ENTER** key, an initial menu page (1/2) will be displayed in Table 5-3-1.

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT: CP610 EEPROM: 0	
***** MENU ***** Page(1/2) ***** PAL	
1. SC FREQUENCY(INT)	4.5.(A).1. ALC LEVEL CHECK
1.2. SC FREQUENCY(EXT VS, G/L IN)	4.5.(A).2. AGC LEVEL CHECK
2.1. G/L H PHASE MIN.	4.5.(A).3. BLC LEVEL CHECK
2.2. G/L H PHASE MAX.	4.5.(A).4. ELC LEVEL CHECK
2.3. G/L H PHASE MIN.	4.5.(A).5. BLC, ELC LEVEL CHECK
3. LL PHASE FOR ACtype (50Hz)	4.5.(A).6. D-RANGE ALC LEVEL CHECK
4.1. HI CLIP LEVEL	4.5.(A).7. D-RANGE BLC LEVEL CHECK
4.2.(A). OB	4.5.(A).8. D-RANGE ELC LEVEL CHECK
4.2.(B). PEDESTAL	4.5.(A).9. D-RANGE BLC, ELC LEVEL CHECK
4.2.(C). LOW CLIP	4.5.(B). PEDESTAL CHECK
4.3.(A). AGC OFF GAIN	4.5.(C). KNEE LEVEL CHECK
4.3.(B). AD/IN GAIN	4.5.(D). LOW LIGHT LEVEL CHECK
4.3.(C). VIDEO OUT GAIN	5.1.(A).1. BURST LEVEL, PHASE
4.3.(D). D-RANGE AD/IN GAIN	5.1.(A).2. BURST LEVEL, PHASE
4.3.(E). D-RANGE VIDEO OUT GAIN	5.1.(B). 3200K CHROMA PHASE
4.4.(A). ALC DC	5.2.(A).1. WB 3200K MANU OFFSET R
4.4.(B). ALC LEVEL	5.2.(A).2. WB 3200K MANU OFFSET B
4.4.(C). BLC LEVEL	5.2.(B).1. WB 5100K ATW LIMIT R
4.4.(D). D-RANGE ALC LEVEL	5.2.(B).2. WB 5100K ATW LIMIT B
4.4.(E). D-RANGE BLC RANGE	5.3.(A).1. 3200 R_GAIN
<CONTENTS> TP2 (SC) [DIGITAL] 4433619+-10Hz	
<INSTRUCTION> PLEASE CHOOSE MENU DATA BY ARROW-KEY	
LOAD(F1) QUIT(F3) SAVE(F5)	

Table 5-3-1

- Press the **PAGE UP** key, an initial menu page (2/2) for adjustment as shown in Table 5-3-2 will be displayed.

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT: CP610 EEPROM: 0	
***** MENU ***** Page(2/2) ***** PAL	
5.3.(A).2. 3200K B_GAIN	
5.3.(A).3. 3200K R_MATRIX	
5.3.(B).1. 5100K R_GAIN	
5.3.(B).2. 5100K B_GAIN	
5.4. HIGHLIGHT CHROMA CLIP	
<CONTENTS> TP2 (SC) [DIGITAL] 4433619+-10Hz	
<INSTRUCTION> PLEASE CHOOSE MENU DATA BY ARROW-KEY	
LOAD(F1) QUIT(F3) SAVE(F5)	

Table 5-3-2

- Press the **SAVE (F5)** key of the Computer, then the Computer will ask you for the file name.
- Give appropriate file name to the Computer. But do not use **CP610E.EVR** for your file.
- This saving procedure is recommended to keep the current adjustment status of the Camera.
- Press the **LOAD (F1)** key and type **CP610E.EVR** and press the **ENTER** key for presetting adjustment of the Camera.
- Press the **ENTER** key to start of adjustment.

Notes:

- **EEPROM** mentioned in this adjustment procedure is IC4 on the Digital Board.
- **RAM** mentioned in this adjustment procedure is IC8 on the Digital Board.
- **DSP** mentioned in this adjustment procedure is IC3 on the Digital Board.

1. Subcarrier Frequency (INT) Adjustment

Test Point: TP2 (SC VCXO)

Digital Board

Adjust: RAM14 (E02)

Digital Board

- The menu as shown in Table 5-4 will be displayed.

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT: CP610 EEPROM: 0	
***** EVR ***** PAL	
1. SC FREQUENCY(INT)	
TP2 (SC) [DIGITAL] 4433619 + - 10Hz	

<DEVICE>	: RAM14
<ADDRESS>	: E02
<DATA>	: 63 — 63
<MESSAGE>	:
<INSTRUCTION> ADJUST DATA BY ARROW-KEY. ROLLDOWN: PREVIOUS ITEM	
LOAD(F1) QUIT(F3) SAVE(F5)	

Table 5-4

- Connect the Frequency Counter to TP2.
- Adjust data with the **ARROW** keys so that the Subcarrier Frequency becomes $4.433619 \text{ MHz} \pm 10 \text{ Hz}$.
- Press the **ENTER** key for next adjustment.

1.2. Subcarrier Frequency (EXT VS, G/L IN) Adjustment

Test Point: TP2 (SC VCXO)

Digital Board

Adjust: RAM14 (E01)

Digital Board

- The menu as shown in Table 5-5 will be displayed.

```

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co.  PRODUCT: CP610  EEPROM: 0
*****EVR***** PAL

1.2. SC FREQUENCY(EXT VS, G/L IN)
TP2 (SC) [DIGITAL] 4433619 +- 10Hz

*****
<DEVICE>      : RAM14
<ADDRESS>     : E01
<DATA>        : 5C - 5C
<MESSAGE>     :

<INSTRUCTION> ADJUST DATA BY ARROW-KEY.  ROLLDOWN: PREVIOUS ITEM
LOAD(F1)      QUIT(F3)      SAVE(F5)
  
```

Table 5-5

- Supply the Composite Video signal to the Gen-Lock Input Connector on the Rear Panel of the Camera.
- Connect the Frequency Counter to TP2.
- Adjust data with the **ARROW** keys so that the Subcarrier Frequency becomes $4.433619 \text{ MHz} \pm 10 \text{ Hz}$.
- Press the **ENTER** key for next adjustment.

2.1. G/L H-Phase (Min.) Adjustment

Test Point: Video Output Connector

Rear Panel

G/L Input Connector

Rear Panel

Adjust: DSP13 (D9E)

Digital Board

- The menu as shown in Table 5-6 will be displayed.

```

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co.  PRODUCT: CP610  EEPROM: 0
*****EVR***** PAL

2.1. G/L H PHASE MIN.
VIDEO OUT, G/L IN  0 +- 0.0000001 sec

*****
<DEVICE>      : DSP13
<ADDRESS>     : D9E
<DATA>        : 1C - 1C
<MESSAGE>     :

<INSTRUCTION> ADJUST DATA BY ARROW-KEY.  ROLLDOWN: PREVIOUS ITEM
LOAD(F1)      QUIT(F3)      SAVE(F5)
  
```

Table 5-6

- Supply the Composite Video signal to the Gen-Lock Input Connector on the Rear Panel of the Camera.
- Connect the CH1 of the Oscilloscope to the G/L Input Connector.
- Connect the CH2 of the Oscilloscope to the Video Output Connector.
- Adjust data with the **ARROW** keys so that the Video Out signal coincides to the G/L In signal as shown in Fig. 5-4.

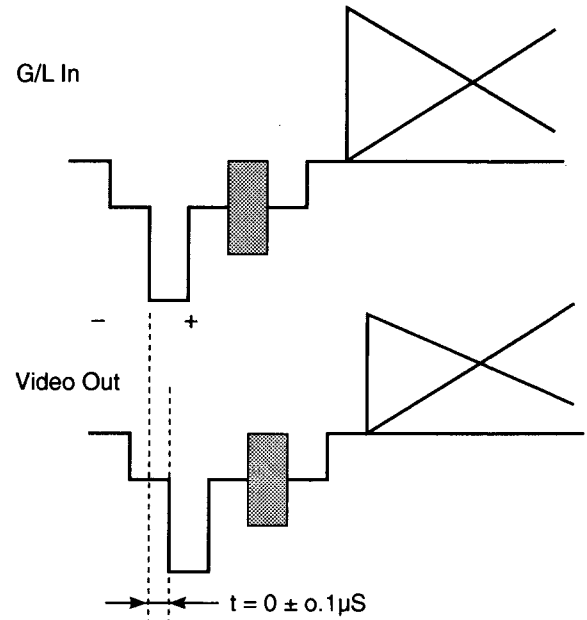


Fig. 5-4

- Press the **ENTER** key for next adjustment.

2.2. G/L H-Phase (Max.) Adjustment

Test Point: Video Output Connector

Rear Panel

G/L Input Connector

Rear Panel

Adjust: DSP13 (D9F)

Digital Board

- The menu as shown in Table 5-7 will be displayed.

```

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co.  PRODUCT: CP610  EEPROM: 0
*****EVR***** PAL

2.2. G/L H PHASE MAX.
VIDEO OUT, G/L IN  -2 +- 0.0000001 sec

*****
<DEVICE>      : DSP13
<ADDRESS>     : D9F
<DATA>        : 39 - 39
<MESSAGE>     :

<INSTRUCTION> ADJUST DATA BY ARROW-KEY.  ROLLDOWN: PREVIOUS ITEM
LOAD(F1)      QUIT(F3)      SAVE(F5)
  
```

Table 5-7

- Supply the Composite Video signal to the Gen-Lock Input Connector on the Rear Panel of the Camera.
- Connect the CH1 of the Oscilloscope to the G/L Input Connector.
- Connect the CH2 of the Oscilloscope to the Video Output Connector.
- Adjust data with the **ARROW** keys so that the Video Out signal coincides to the G/L In signal as shown in Fig. 5-5.

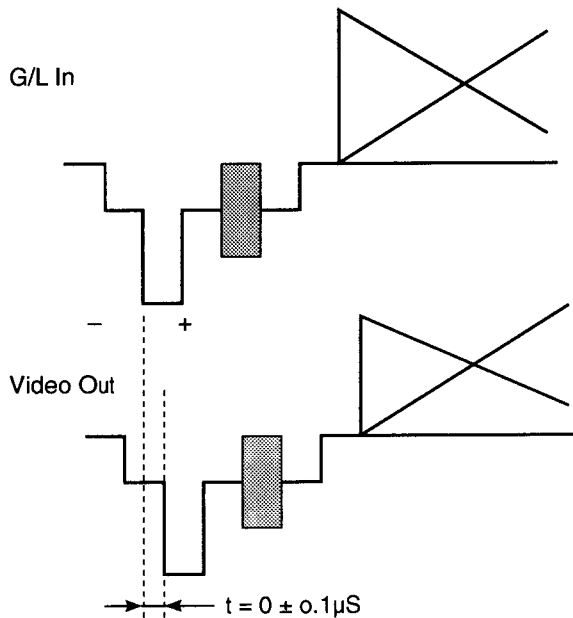


Fig. 5-5

- Press the **ENTER** key for next adjustment.

2.3. G/L H-Phase (Min.) Adjustment

Test Point:	Video Output Connector	Rear Panel
	G/L Input Connector	Rear Panel
Adjust:	DSP13 (D9E)	Digital Board

- The menu as shown in Table 5-8 will be displayed.

```
PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT:CP610 EEPROM:0
*****EVR***** PAL

2.3. G/L H PHASE MIN.
VIDEO OUT, G/L IN 0 + - 0.0000001 sec

*****
<DEVICE> :DSP13
<ADDRESS> :D9E
<DATA> :1C — 1C
<MESSAGE> :

<INSTRUCTION> ADJUST DATA BY ARROW-KEY. ROLLDOWN: PREVIOUS ITEM
LOAD(F1) QUIT(F3) SAVE(F5)
```

Table 5-8

- Supply the Composite Video signal to the Gen-Lock Input Connector on the Rear Panel of the Camera.
- Connect the CH1 of the Oscilloscope to the G/L Input Connector.
- Connect the CH2 of the Oscilloscope to the Video Output Connector.
- Adjust data with the **ARROW** keys so that the Video Out signal coincides to the G/L In signal as shown in Fig. 5-6.

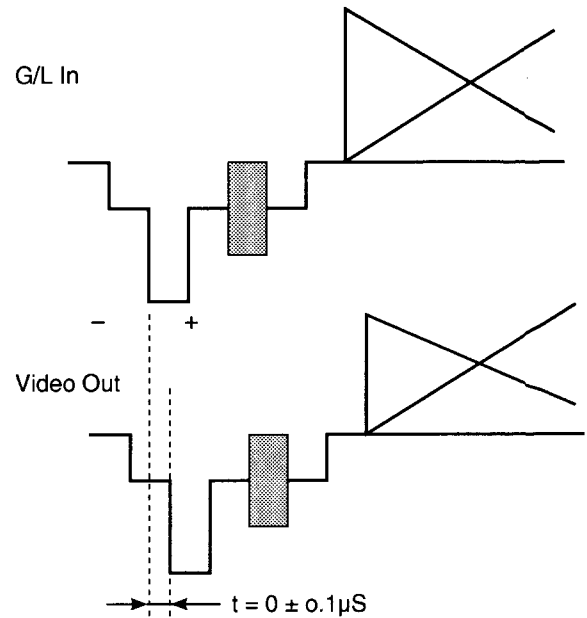


Fig. 5-6

- Press the **ENTER** key for next adjustment.

3. LL Phase Adjustment (for WV-CP610 and WV-CP614 only)

Test Point: Video Output Connector Rear Board
AC Power Line

Adjust: RAM(034) Digital Board

- The menu as shown in Table 5-9 will be displayed.

```
PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT: CP610 E: PROM: 0
*****EVR*****! * PAL

3. LL PHASE FOR ACtype (50Hz)
VIDEO OUT (VSYNC)

***** (p) *****

<DEVICE> : RAM0
<ADDRESS> : 034
<DATA> : 00 — 00
<MESSAGE> :

<INSTRUCTION> ADJUST DATA BY ARROW-KEY. ROLLDOWN: PREVIOUS ITEM
LOAD(F1) QUIT(F3) SAVE(F5)
```

Table 5-9

- Connect the CH1 of the Oscilloscope to the Video Output Connector.
- Connect the CH2 of the Oscilloscope to the AC Input terminal on the Power Board.
- Trigger the Oscilloscope at V-rate.
- Adjust data with the **ARROW** keys so that the Decay point of V Sync signal coincides delays $2H \pm 4H$ from the zero cross point of the AC Power source as shown in Fig. 5-7.

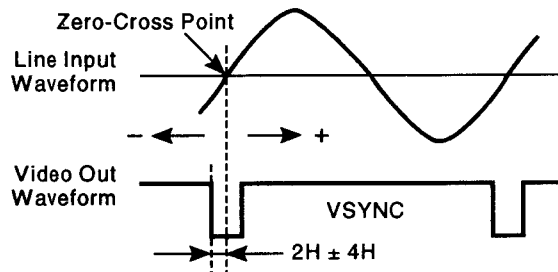


Fig. 5-7

- Press the **ENTER** key for next adjustment.

4.1. High Clip Adjustment

Test Point: Video Output Connector **Rear Panel**
Adjust: RAM14 (E00) **Digital Board**

- The menu as shown in Table 5-10 will be displayed.

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT: CP610 EEPROM: 0	
*****EVR***** PAL	
4.1. HICLIP LEVEL	
VIDEO OUT 805 +30 -0mV	

<DEVICE>	: RAM14
<ADDRESS>	: E00
<DATA>	: 47 — 47
<MESSAGE>	:
<INSTRUCTION> ADJUST DATA BY ARROW-KEY. ROLLDOWN: PREVIOUS ITEM	
LOAD(F1)	QUIT(F3) SAVE(F5)

Table 5-10

- Open the Lens Iris fully.
- Aim the Camera at the White Chart.
- Adjust data with the **ARROW** keys so that signal level becomes 805 ± 30 mV as shown in Fig. 5-8.

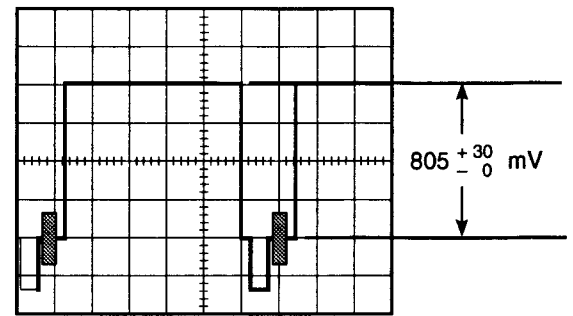


Fig. 5-8

- Press the **ENTER** key for next adjustment.

4.2.(A). OB Adjustment

Test Point: Video Output Connector **Rear Panel**
Adjust: RAM0 (0A3) **Digital Board**

- The menu as shown in Table 5-11 will be displayed.

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT: CP610 EEPROM: 0	
*****EVR***** PAL	
4.2.(A). OB	
LENS CLOSE, MEASURE 01	

<DEVICE>	: RAM0
<ADDRESS>	: 0A3
<DATA>	: 23 — 23
<MEASURE>	: 01
<MESSAGE>	:
<INSTRUCTION> ADJUST DATA BY ARROW-KEY. ROLLDOWN: PREVIOUS ITEM	
LOAD(F1)	QUIT(F3) SAVE(F5)

Table 5-11

- Cap on the Lens.
- Adjust data with the **ARROW** keys so that the measure level becomes 01.
- Press the **ENTER** key for next adjustment.

4.2.(B). Pedestal Adjustment

Test Point: Video Output Connector **Rear Panel**
Adjust: RAM0 (032) **Digital Board**

- The menu as shown in Table 5-12 will be displayed.

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT:CP610 EEPROM:0	
*****EVR***** PAL	
4.2.(B). PEDESTAL	
VIDEO OUT PEDESTAL 50mV $\pm$ 5mV	

<DEVICE>	: RAM0
<ADDRESS>	: 032
<DATA>	: 0C — 0C
<MESSAGE>	:
<INSTRUCTION> ADJUST DATA BY ARROW-KEY. ROLLDOWN: PREVIOUS ITEM	
LOAD(F1)	QUIT(F3) SAVE(F5)

Table 5-12

- Cap on the Lens.
- Connect the terminated Oscilloscope with 75 Ω to the Video Output Connector.
- Adjust data with the **ARROW** keys so that the Pedestal level becomes 50 $\pm$ 5 mV as shown in Fig. 5-9.

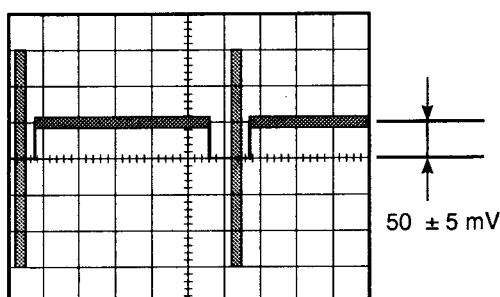


Fig. 5-9

- Press the **ENTER** key for next adjustment.

4.2.(C). Low Clip Adjustment

Test Point: Video Output Connector **Rear Panel**
Adjust: RAM14 (E03) **Digital Board**

- The menu as shown in Table 5-13 will be displayed.

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT:CP610 EEPROM:0	
*****EVR***** PAL	
4.2.(C). LOW CLIP	
VIDEO OUT, G/L IN -2 + - 0.0000001 sec	

<DEVICE>	: RAM14
<ADDRESS>	: E03
<DATA>	: 86 — 86
<MESSAGE>	:
<INSTRUCTION> ADJUST DATA BY ARROW-KEY. ROLLDOWN: PREVIOUS ITEM	
LOAD(F1)	QUIT(F3) SAVE(F5)

Table 5-13

- Cap on the Lens.
- Connect the terminated Oscilloscope with 75 Ω to the Video Output Connector.
- Adjust data with the **ARROW** keys so that the Pedestal level becomes 50 $\pm$ 5 mV as shown in Fig. 5-10.

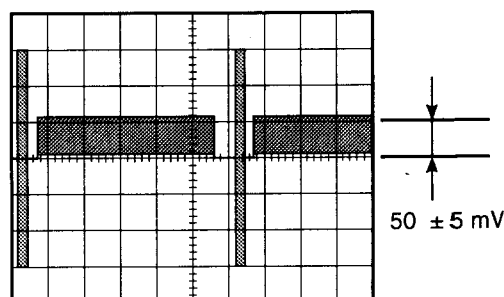


Fig. 5-10

- Press the **PG DN** key twice to return to 4.1., and repeat adjustment steps 4.1. and 4.3. until both data become satisfactory.
- Press the **ENTER** key for next adjustment.

4.3.(A). AGC OFF Gain Adjustment

Test Point: Pin 1 of CN2 (CDSOUT) **Drive Board**
Pin 3 of CN2 (AGCOUT) **Drive Board**
Adjust: RAM0 (097) **Digital Board**

- The menu as shown in Table 5-14 will be displayed.

```

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT: CP610 EEPROM: 0
*****EVR***** PAL

4.3.(A). AGC OFF GAIN
CN2-3(AGCOUT) [DRIVE] 300mV + - 30mV : CN2-1(CDSOUT) 300mV
USE MANUAL LENS

*****
<DEVICE> : RAM0
<ADDRESS> : 097
<DATA> : 0C - 0C
<MESSAGE> :

<INSTRUCTION> ADJUST DATA BY ARROW-KEY. ROLLDOWN: PREVIOUS ITEM
LOAD(F1) QUIT(F3) SAVE(F5)

```

Table 5-14

- Aim the Camera at the Logarithmic Gray Scale Chart.
- Connect the Oscilloscope to the pin 1 of CN2.
- Set the Lens Iris so that the signal level at the pin 1 of CN2 becomes 300 ± 30 mV as shown in Fig. 5-11.

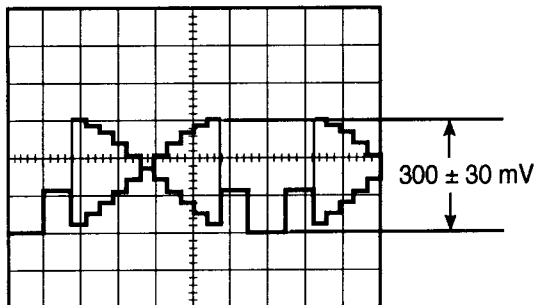


Fig. 5-11

- Change the connection of the Oscilloscope to the pin 3 of CN2.
- Adjust data with the **ARROW** keys so that AGCOUT signal level becomes 300 ± 30 mV as shown in Fig. 5-12.

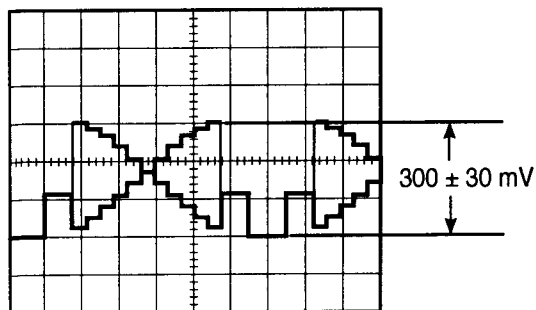


Fig. 5-12

- Press the **ENTER** key for next adjustment.

4.3.(B). AD/IN Gain Adjustment

Test Point: Pin 1 of CN2 (CDSOUT)

Drive Board

Pin 5 of CN2 (AD/IN)

Drive Board

Adjust: RAM14 (E06)

Digital Board

- The menu as shown in Table 5-15 will be displayed.

```

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT: CP610 EEPROM: 0
*****EVR***** PAL

4.3.(B). AD/IN GAIN
CN2-5(AD/IN) [DRIVE] 800 + - 30mV : CN2-1(CDSOUT) 300mV
USE MANUAL LENS

*****
<DEVICE> : RAM14
<ADDRESS> : E06
<DATA> : 99 - 99
<MEASURE> : 5A
<MESSAGE> :

<INSTRUCTION> ADJUST DATA BY ARROW-KEY. ROLLDOWN: PREVIOUS ITEM
LOAD(F1) QUIT(F3) SAVE(F5)

```

Table 5-14

- Aim the Camera at the Logarithmic Gray Scale Chart.
- Connect the Oscilloscope to the pin 1 of CN2.
- Set the Lens Iris so that the signal level at the pin 1 of CN2 becomes 300 ± 30 mV as shown in Fig. 5-13.

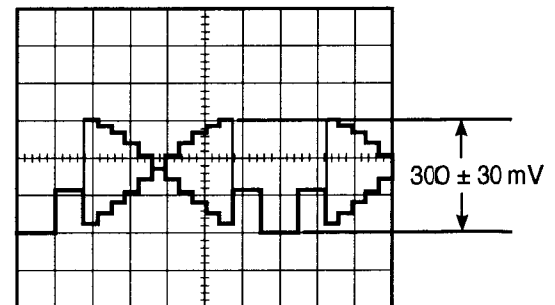


Fig. 5-13

- Change the connection of the Oscilloscope to the pin 5 of CN2.
- Adjust data with the **ARROW** keys so that AD/IN signal level becomes 800 ± 30 mV as shown in Fig. 5-14.

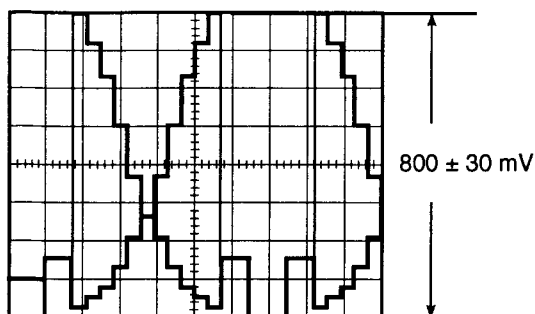


Fig. 5-14

- Press the **ENTER** key for next adjustment.

4.3.(C). Video Out Gain Adjustment

Test Point: Pin 1 of CN2 (CDSOUT) Drive Board
Video Output Connector Rear Panel
Adjust: RAM0 (022) Digital Board

- The menu as shown in Table 5-16 will be displayed.

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT: CP610 EEPROM: 0	
*****EVR***** PAL	
4.3.(C). VIDEO OUT GAIN	
VIDEO OUT 700 + - 50mV : CN2-1(CDSOUT) 300mV USE MANUAL LENS	

<DEVICE>	: RAM0
<ADDRESS>	: 022
<DATA>	: 34 - 34
<MESSAGE>	:
<INSTRUCTION> ADJUST DATA BY ARROW-KEY. ROLLDOWN: PREVIOUS ITEM	
LOAD(F1)	QUIT(F3)
SAVE(F5)	

Table 5-16

- Aim the Camera at the Logarithmic Gray Scale Chart.
- Connect the Oscilloscope to the pin 1 of CN2.
- Set the Lens Iris so that the signal level at the pin 1 of CN2 becomes 300 ± 30 mV as shown in Fig. 5-15.

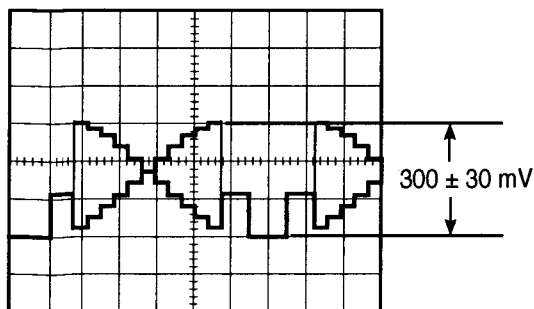


Fig. 5-15

- Adjust data with the **ARROW** keys so that Video signal level becomes 700 ± 50 mV as shown in Fig. 5-16.

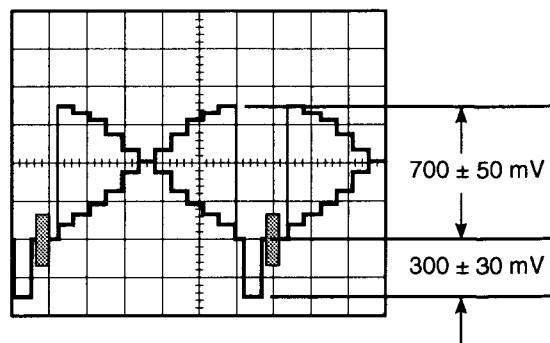


Fig. 5-16

- Press the **ENTER** key for next adjustment.

4.3.(D). Wide D-Range AD/IN Gain Adjustment

Test Point: Pin 1 of CN2 (CDSOUT) Drive Board
Pin 5 of CN2 (AD/IN) Drive Board
Adjust: RAM14 (E0F) Digital Board

- The menu as shown in Table 5-17 will be displayed.

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT: CP610 EEPROM: 0	
*****EVR***** PAL	
4.3.(D). D-RANGE AD/IN GAIN	
CN2-5(AD/IN) [DRIVE] 800 + - 30mV : CN2-1(CDSOUT) 200mV	
USE MANUAL LENS	

<DEVICE>	: RAM14
<ADDRESS>	: E0F
<DATA>	: 9A - 9A
<MEASURE>	: 00
<MESSAGE>	:
<INSTRUCTION> ADJUST DATA BY ARROW-KEY. ROLLDOWN: PREVIOUS ITEM	
LOAD(F1)	QUIT(F3)
SAVE(F5)	

Table 5-17

- Aim the Camera at the Logarithmic Gray Scale Chart.
- Connect the Oscilloscope to the pin 1 of CN2.
- Set the Lens Iris so that the signal level at the pin 1 of CN2 becomes 200 ± 30 mV as shown in Fig. 5-17.

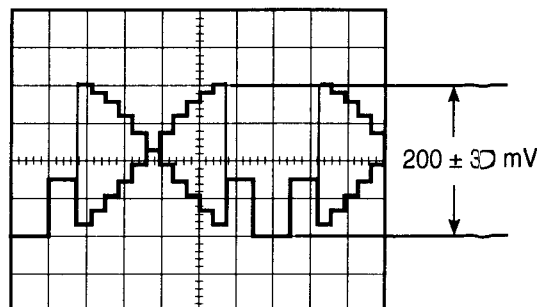


Fig. 5-17

- Change the connection of the Oscilloscope to the pin 5 of CN2.

- Adjust data with the **ARROW** keys so that Video signal level becomes 800 ± 30 mV as shown in Fig. 5-18.

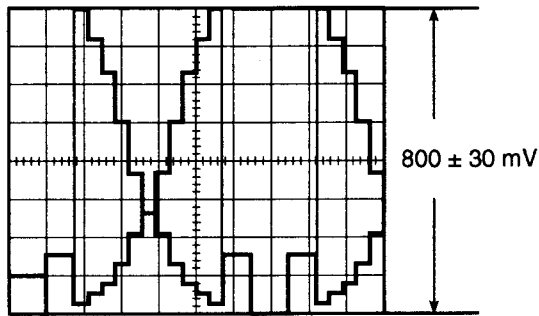


Fig. 5-18

- Press the **ENTER** key for next adjustment.

4.3.(E). Wide D-Range Video Out Gain Adjustment

Test Point: Pin 1 of CN2 (CDSOUT) Drive Board
Video Output Connector Rear Panel
Adjust: RAM0 (03F, 03E) Digital Board

- The menu as shown in Table 5-18 will be displayed.

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT:CP610 EEPROM:0	
*****EVR***** PAL	
4.3.(E). D-RANGE VIDEO OUT GAIN	
VIDEO OUT 700 +- 50mV : CN2-1(CDSOUT) 200mV USE MANUAL LENS	

<DEVICE>	: RAM0
<ADDRESS>	: 03F : 03E
<DATA>	: 00 A6--00 A6
<MESSAGE>	:
<INSTRUCTION> ADJUST DATA BY ARROW-KEY. ROLLDOWN: PREVIOUS ITEM	
LOAD(F1)	QUIT(F3) SAVE(F5)

Table 5-18

- Aim the Camera at the Logarithmic Gray Scale Chart.
- Connect the Oscilloscope to the pin 1 of CN2.
- Set the Lens Iris so that the signal level at the pin 1 of CN2 becomes 200 ± 30 mV as shown in Fig. 5-19.

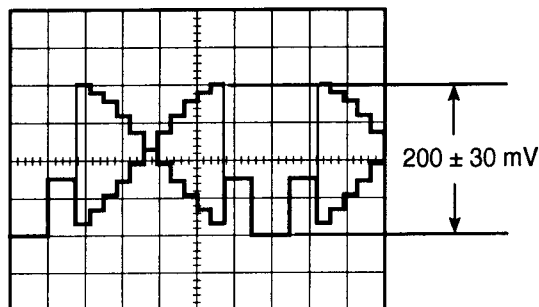


Fig. 5-19

- Adjust data with the **ARROW** keys so that Video signal level becomes 700 ± 50 mV as shown in Fig. 5-20.

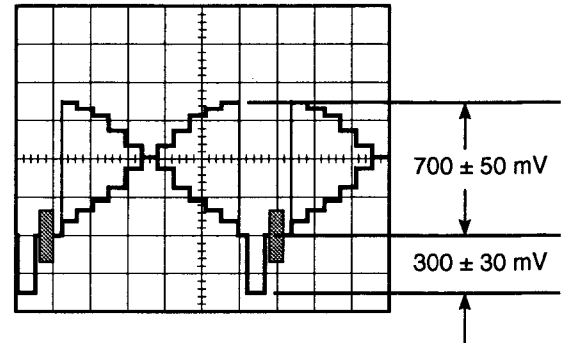


Fig. 5-20

- Press the **ENTER** key for next adjustment.

4.4.(A). ALC DC Adjustment

Test Point: Video Output Connector Rear Panel
Adjust: RAM0 (099) Digital Board

- The menu as shown in Table 5-19 will be displayed.

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT:CP610 EEPROM:0	
*****EVR***** PAL	
4.4.(A). ALC DC	
0 < MEASURE < 5 : USE ALC LENS	

<DEVICE>	: RAM0
<ADDRESS>	: 099
<DATA>	: A0 - A0
<MEASURE>	: 00
<MESSAGE>	:
<INSTRUCTION> ADJUST DATA BY ARROW-KEY. ROLLDOWN: PREVIOUS ITEM	
LOAD(F1)	QUIT(F3) SAVE(F5)

Table 5-19

- Change the Lens from the Manual Iris Lens to Automatic Iris Control Lens.
- Aim the Camera at the Logarithmic Gray Scale Chart.
- Adjust data with the **ARROW** keys so that the measure level becomes between 00 and 05.
- Press the **ENTER** key for next adjustment.

4.4.(B). ALC Level Adjustment

Test Point: Video Output Connector Rear Panel
Adjust: RAM0 (09D) Digital Board

- The menu as shown in Table 5-20 will be displayed.

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT: CP610 EEPROM: 0	
*****EVR***** PAL	
4.4.(B). ALC LEVEL	
VIDEO OUT 700 ± 50mV	

<DEVICE>	: RAM0
<ADDRESS>	: 09D
<DATA>	: 22 — 22
<MESSAGE>	:
<INSTRUCTION> ADJUST DATA BY ARROW-KEY. ROLLDOWN: PREVIOUS ITEM	
LOAD(F1)	QUIT(F3) SAVE(F5)

Table 5-20

- Aim the Camera at the Logarithmic Gray Scale Chart.
- Connect the terminated Oscilloscope with 75Ω to the Video Output Connector.
- Adjust data with the **ARROW** keys so that the Video signal level becomes 700 ± 50 mV as shown in Fig. 5-21.

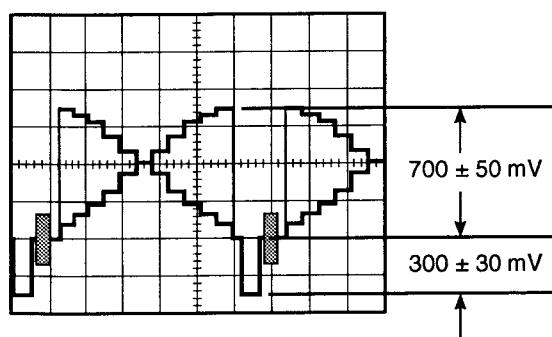


Fig. 5-21

- Press the **ENTER** key for next adjustment.

4.4.(C). BLC Level Adjustment

Test Point: Video Output Connector Rear Panel
Adjust: RAM0 (09C) Digital Board

- The menu as shown in Table 5-21 will be displayed.

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT: CP610 EEPROM: 0	
*****EVR***** PAL	
4.4.(C). BLC LEVEL	
VIDEO OUT 700 ± 50mV	

<DEVICE>	: RAM0
<ADDRESS>	: 09C
<DATA>	: 1A — 1A
<MESSAGE>	:
<INSTRUCTION> ADJUST DATA BY ARROW-KEY. ROLLDOWN: PREVIOUS ITEM	
LOAD(F1)	QUIT(F3) SAVE(F5)

Table 5-21

- Aim the Camera at the Logarithmic Gray Scale Chart.
- Connect the terminated Oscilloscope with 75Ω to the Video Output Connector.
- Adjust data with the **ARROW** keys so that the Video signal level becomes 700 ± 50 mV as shown in Fig. 5-22.

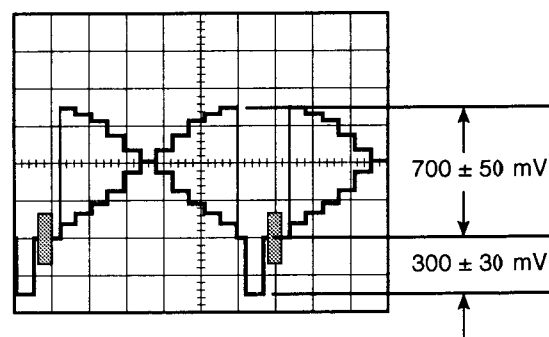


Fig. 5-22

- Press the **ENTER** key for next adjustment.

4.4.(D). Wide D-range ALC Level Adjustment

Test Point: Pin 1 of CN2 (CDSOUT) Drive Board
Adjust: RAM0 (09F) Digital Board

- The menu as shown in Table 5-22 will be displayed.

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT: CP610 EEPROM: 0	
*****EVR***** PAL	
4.4.(D). D-RANGE ALC LEVEL	
CN2-1(CDSOUT) 200 ± 30mV	

<DEVICE>	: RAM0
<ADDRESS>	: 09F
<DATA>	: 5A — 5A
<MESSAGE>	:
<INSTRUCTION> ADJUST DATA BY ARROW-KEY. ROLLDOWN: PREVIOUS ITEM	
LOAD(F1)	QUIT(F3) SAVE(F5)

Table 5-22

- Aim the Camera at the Logarithmic Gray Scale Chart.
- Connect the Oscilloscope to the pin 1 of CN2.
- Adjust data with the **ARROW** keys so that the CDSOUT signal level becomes 200 ± 30 mV as shown in Fig. 5-23.

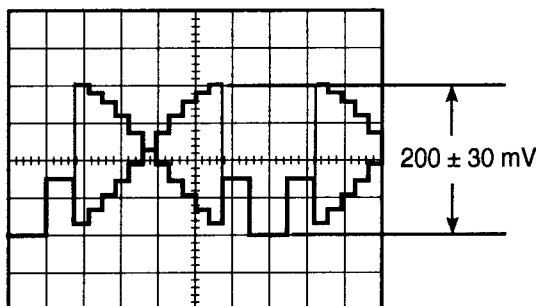


Fig. 5-23

- Press the **ENTER** key for next adjustment.

4.4.(E). Wide D-range BLC Level Adjustment

Test Point: Pin 1 of CN2 (CDSOUT) . Drive Board
Adjust: RAM0 (09E) Digital Board

- The menu as shown in Table 5-23 will be displayed.

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT: CP610 EEPROM: 0	
*****EVR***** PAL	
4.4.(E). D-RANGE BLC LEVEL	
CN2-1(CDSOUT) 200 ± 30mV	

<DEVICE>	: RAM0
<ADDRESS>	: 09E
<DATA>	: 2D — 2D
<MESSAGE>	:
<INSTRUCTION> ADJUST DATA BY ARROW-KEY. ROLLDOWN: PREVIOUS ITEM	
LOAD(F1)	QUIT(F3) SAVE(F5)

Table 5-23

- Aim the Camera at the Logarithmic Gray Scale Chart.
- Connect the Oscilloscope to the pin 1 of CN2.
- Adjust data with the **ARROW** keys so that the CDSOUT signal level becomes 200 ± 30 mV as shown in Fig. 5-24.

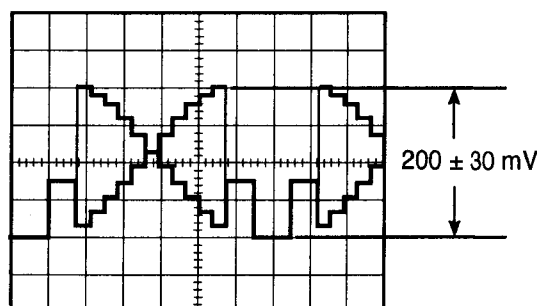


Fig. 5-24

- Press the **ENTER** key for next adjustment.

4.5.(A).1. ALC Level Check

Test Point: Video Output Connector Rear Panel
Adjust: RAM0 (09D) Digital Board

- The menu as shown in Table 5-24 will be displayed.

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT: CP610 EEPROM: 0	
*****EVR***** PAL	
4.5.(A).1. ALC LEVEL CHECK	
VIDEO OUT 700 ± 50mV	

<DEVICE>	: RAM0
<ADDRESS>	: 09D
<DATA>	: 22 — 22
<MESSAGE>	:
<INSTRUCTION> ADJUST DATA BY ARROW-KEY. ROLLDOWN: PREVIOUS ITEM	
LOAD(F1)	QUIT(F3) SAVE(F5)

Table 5-24

- Aim the Camera at the Logarithmic Gray Scale Chart.
- Connect the terminated Oscilloscope with 75Ω to the Video Output Connector.
- Confirm that the Video signal becomes 700 ± 50 mV as shown in Fig. 5-25.

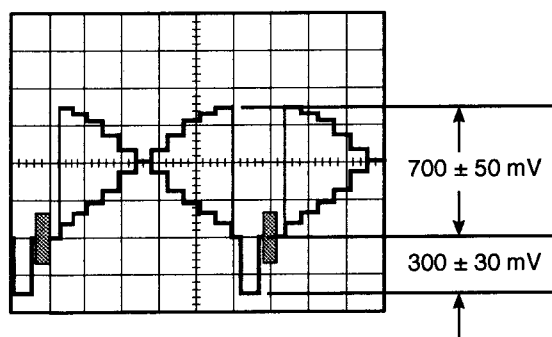


Fig. 5-25

- If not, adjust data with the **ARROW** keys so that the Video signal level becomes 700 ± 50 mV as shown in Fig. 5-25.
- Press the **ENTER** key for next adjustment.

4.5.(A).2. AGC Level Check

Test Point: Video Output Connector Rear Panel
Adjust: RAM0 (09D) Digital Board

- The menu as shown in Table 5-24 will be displayed.

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT: CP610 EEPROM: 0	
*****EVR***** PAL	
4.5.(A).2. AGC LEVEL CHECK	
VIDEO OUT 700 ± 50mV	

<DEVICE>	: RAM0
<ADDRESS>	: 09D
<DATA>	: 22 — 22
<MESSAGE>	:
<INSTRUCTION> ADJUST DATA BY ARROW-KEY. ROLLDOWN: PREVIOUS ITEM	
LOAD(F1)	QUIT(F3) SAVE(F5)

Table 5-25

- Aim the Camera at the Logarithmic Gray Scale Chart.
- Connect the terminated Oscilloscope with 75Ω to the Video Output Connector.
- Confirm that the Video signal becomes 700 ± 50 mV as shown in Fig. 5-26.

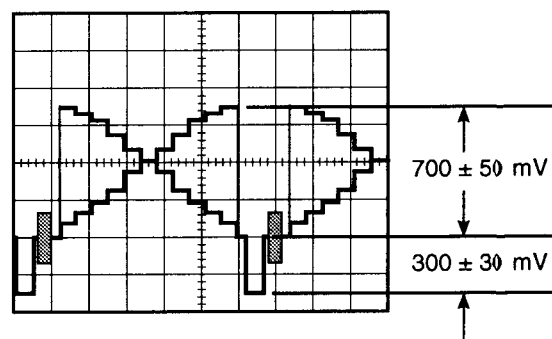


Fig. 5-26

- If not, adjust data with the **ARROW** keys so that the Video signal level becomes 700 ± 50 mV as shown in Fig. 5-26.
- Press the **ENTER** key for next adjustment.

4.5.(A).3. BLC Level Check

Test Point: Video Output Connector Rear Panel
Adjust: RAM0 (09C) Digital Board

- The menu as shown in Table 5-26 will be displayed.

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT: CP610 EEPROM: 0	
*****EVR***** PAL	
4.5.(A).3. BLC LEVEL CHECK	
VIDEO OUT 700 ± 50mV	

<DEVICE>	: RAM0
<ADDRESS>	: 09C
<DATA>	: 1A — 1A 
<MESSAGE>	:
<INSTRUCTION> ADJUST DATA BY ARROW-KEY. ROLLDOWN: PREVIOUS ITEM	
LOAD(F1)	QUIT(F3) SAVE(F5)

Table 5-26

- Aim the Camera at the Logarithmic Gray Scale Chart.
- Connect the terminated Oscilloscope with 75Ω to the Video Output Connector.
- Confirm that the Video signal becomes 700 ± 50 mV as shown in Fig. 5-27.

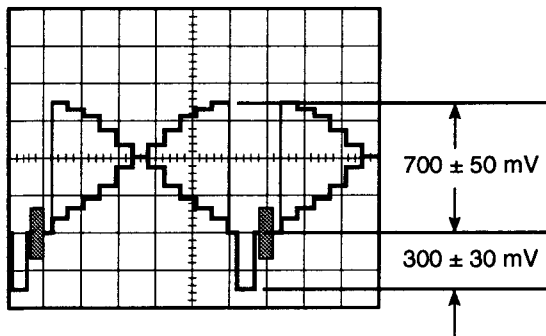


Fig. 5-27

- If not, adjust data with the **ARROW** keys so that the Video signal level becomes 700 ± 50 mV as shown in Fig. 5-27.
- Press the **ENTER** key for next adjustment.

4.5.(A).4. ELC Level Check

Test Point: Video Output Connector Rear Panel
Adjust: RAM0 (09D) Digital Board

- The menu as shown in Table 5-27 will be displayed.

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT: CP610 EEPROM: 0	
*****EVR***** PAL	
4.5.(A).4. ELC LEVEL CHECK	
VIDEO OUT 700 ± 50mV	

<DEVICE>	: RAM0
<ADDRESS>	: 09D
<DATA>	: 22 — 22 
<MESSAGE>	:
<INSTRUCTION> ADJUST DATA BY ARROW-KEY. ROLLDOWN: PREVIOUS ITEM	
LOAD(F1)	QUIT(F3) SAVE(F5)

Table 5-27

- Aim the Camera at the Logarithmic Gray Scale Chart.
- Connect the terminated Oscilloscope with 75Ω to the Video Output Connector.
- Confirm that the Video signal becomes 700 ± 50 mV as shown in Fig. 5-28.

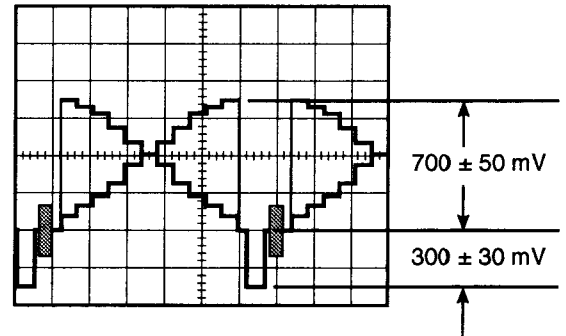


Fig. 5-28

- If not, adjust data with the **ARROW** keys so that the Video signal level becomes 700 ± 50 mV as shown in Fig. 5-28.
- Press the **ENTER** key for next adjustment.

4.5.(A).5. BLC, ELC Level Check

Test Point: Video Output Connector Rear Panel
Adjust: RAM0 (09C) Digital Board

- The menu as shown in Table 5-28 will be displayed.

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT: CP610 EEPROM: 0	
*****EVR***** PAL	
4.5.(A).5. BLC, ELC LEVEL CHECK	
VIDEO OUT 700 ± 50mV	

<DEVICE>	: RAM0
<ADDRESS>	: 09C
<DATA>	: 1A — 1A
<MESSAGE>	:

<INSTRUCTION> ADJUST DATA BY ARROW-KEY. ROLLDOWN: PREVIOUS ITEM	
LOAD(F1)	QUIT(F3) SAVE(F5)

Table 5-28

- Aim the Camera at the Logarithmic Gray Scale Chart.
- Connect the terminated Oscilloscope with 75Ω to the Video Output Connector.
- Confirm that the Video signal becomes 700 ± 50 mV as shown in Fig. 5-29.

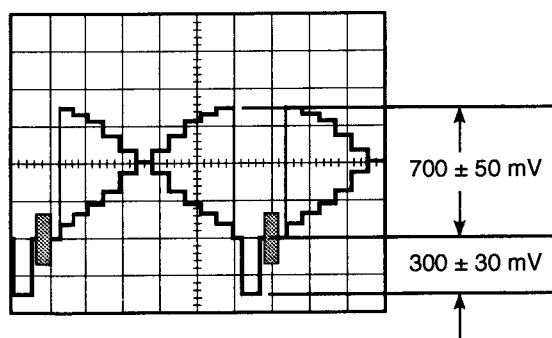


Fig. 5-29

- If not, adjust data with the **ARROW** keys so that the Video signal level becomes 700 ± 50 mV as shown in Fig. 5-29.
- Press the **ENTER** key for next adjustment.

4.5.(A).6. Wide D-Range ALC Level Check

Test Point: Video Output Connector **Rear Panel**
Adjust: RAM0 (09F) **Digital Board**

- The menu as shown in Table 5-29 will be displayed.

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT: CP610 EEPROM: 0	
*****EVR***** PAL	
4.5.(A).6. D-RANGE ALC LEVEL CHECK	
VIDEO OUT 700 ± 50mV	

<DEVICE>	: RAM0
<ADDRESS>	: 09F
<DATA>	: 46 — 46
<MESSAGE>	:

<INSTRUCTION> ADJUST DATA BY ARROW-KEY. ROLLDOWN: PREVIOUS ITEM	
LOAD(F1)	QUIT(F3) SAVE(F5)

Table 5-29

- Aim the Camera at the Logarithmic Gray Scale Chart.
- Connect the terminated Oscilloscope with 75Ω to the Video Output Connector.
- Confirm that the Video signal becomes 700 ± 50 mV as shown in Fig. 5-30.

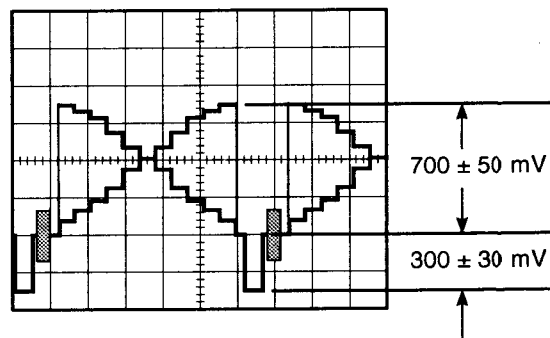


Fig. 5-30

- If not, adjust data with the **ARROW** keys so that the Video signal level becomes 700 ± 50 mV as shown in Fig. 5-30.
- Press the **ENTER** key for next adjustment.

4.5.(A).7. Wide D-Range BLC Level Check

Test Point: Video Output Connector **Rear Panel**
Adjust: RAM0 (09E) **Digital Board**

- The menu as shown in Table 5-30 will be displayed.

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT: CP610 EEPROM: 0	
*****EVR***** PAL	
4.5.(A).7. D-RANGE BLC LEVEL CHECK	
VIDEO OUT 700 ± 50mV	

<DEVICE>	: RAM0
<ADDRESS>	: 09E
<DATA>	: 22 — 22
<MESSAGE>	:
<INSTRUCTION> ADJUST DATA BY ARROW-KEY. ROLLDOWN: PREVIOUS ITEM	
LOAD(F1)	QUIT(F3)
SAVE(F5)	

Table 5-30

- Aim the Camera at the Logarithmic Gray Scale Chart.
- Connect the terminated Oscilloscope with 75Ω to the Video Output Connector.
- Confirm that the Video signal becomes 700 ± 50 mV as shown in Fig. 5-31.

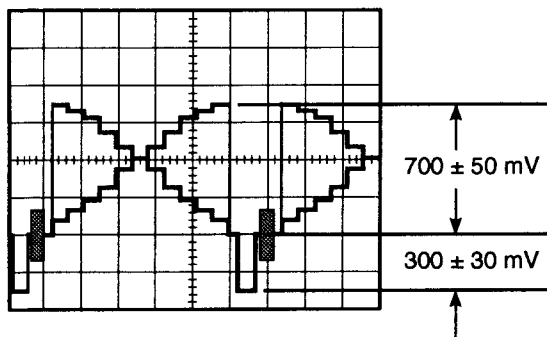


Fig. 5-31

- If not, adjust data with the **ARROW** keys so that the Video signal level becomes 700 ± 50 mV as shown in Fig. 5-31.
- Press the **ENTER** key for next adjustment.

4.5.(A).8. Wide D-Range ELC Level Check

Test Point: Video Output Connector Rear Panel
Adjust: RAM0 (09F) Digital Board

- The menu as shown in Table 5-31 will be displayed.

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT: CP610 EEPROM: 0	
*****EVR***** PAL	
4.5.(A).8. D-RANGE ELC LEVEL CHECK	
VIDEO OUT 700 ± 50mV	

<DEVICE>	: RAM0
<ADDRESS>	: 09F
<DATA>	: 46 — 46
<MESSAGE>	:
<INSTRUCTION> ADJUST DATA BY ARROW-KEY. ROLLDOWN: PREVIOUS ITEM	
LOAD(F1)	QUIT(F3)
SAVE(F5)	

Table 5-31

- Aim the Camera at the Logarithmic Gray Scale Chart.
- Connect the terminated Oscilloscope with 75Ω to the Video Output Connector.
- Confirm that the Video signal becomes 700 ± 50 mV as shown in Fig. 5-32.

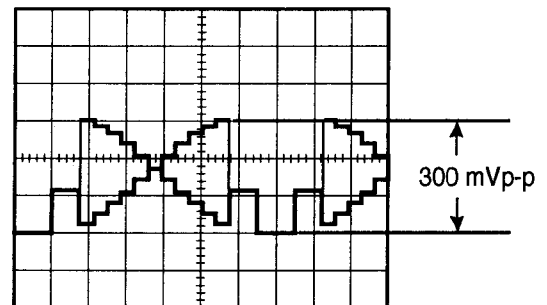


Fig. 5-32

- If not, adjust data with the **ARROW** keys so that the Video signal level becomes 700 ± 50 mV as shown in Fig. 5-32.
- Press the **ENTER** key for next adjustment.

4.5.(A).9. Wide D-Range ELC Level Check

Test Point: Video Output Connector Rear Panel
Adjust: RAM0 (09E) Digital Board

- The menu as shown in Table 5-32 will be displayed.

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT: CP610 EEPROM: 0	
*****EVR***** PAL	
4.5.(A).9. D-RANGE BLC, ELC LEVEL CHECK	
VIDEO OUT 700 ± 50mV	

<DEVICE>	: RAM0
<ADDRESS>	: 09E
<DATA>	: 22 — 22
<MESSAGE>	:
<INSTRUCTION> ADJUST DATA BY ARROW-KEY. ROLLDOWN: PREVIOUS ITEM	
LOAD(F1)	QUIT(F3) SAVE(F5)

Table 5-32

- Aim the Camera at the Logarithmic Gray Scale Chart.
- Connect the terminated Oscilloscope with 75Ω to the Video Output Connector.
- Confirm that the Video signal becomes 700 ± 50 mV as shown in Fig. 5-33.

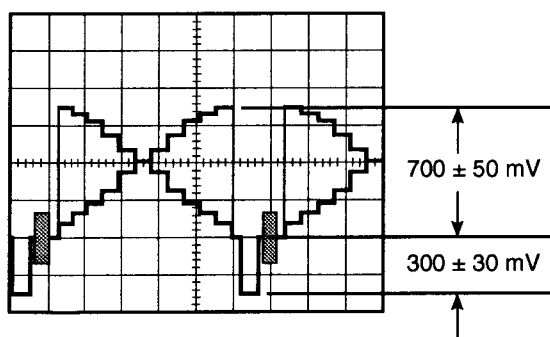


Fig. 5-33

- If not, adjust data with the **ARROW** keys so that the Video signal level becomes 700 ± 50 mV as shown in Fig. 5-33.
- Press the **ENTER** key for next adjustment.

4.5.(B). Pedestal Level Check

Test Point: Video Output Connector Rear Panel
Adjust: RAM0 (032) Digital Board

- The menu as shown in Table 5-33 will be displayed.

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT: CP610 EEPROM: 0	
*****EVR***** PAL	
4.5.(B). PEDESTAL CHECK	
VIDEO OUT PEDESTAL 50 ± 5mV	

<DEVICE>	: RAM0
<ADDRESS>	: 032
<DATA>	: 0C — 0C
<MESSAGE>	:
<INSTRUCTION> ADJUST DATA BY ARROW-KEY. ROLLDOWN: PREVIOUS ITEM	
LOAD(F1)	QUIT(F3) SAVE(F5)

Table 5-33

- Cap on the Lens.
- Connect the terminated Oscilloscope with 75Ω to the Video Output Connector.
- Confirm that the Pedestal level becomes 50 ± 5 mV as shown in Fig. 5-34.

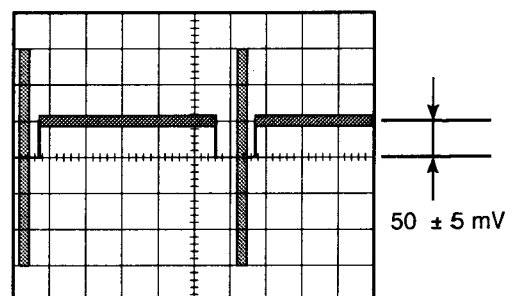


Fig. 5-34

- If not, adjust data with the **ARROW** keys so that the Pedestal level becomes 50 ± 5 mV as shown in Fig. 5-34.
- Press the **ENTER** key for next adjustment.

4.5.(C). Knee Level Check

Test Point: Video Output Connector Rear Panel
Adjust: RAM0 (032) Digital Board

- The menu as shown in Table 5-34 will be displayed.

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT: CP610 EEPROM: 0	
*****EVR***** PAL	
4.5.(C). KNEE LEVEL CHECK	
VIDEO OUT PEDESTAL 50 + - 5mV	

<DEVICE>	: RAM0
<ADDRESS>	: 032
<DATA>	: 0C — 0C
<MESSAGE>	:
<INSTRUCTION> ADJUST DATA BY ARROW-KEY. ROLLDOWN: PREVIOUS ITEM	
LOAD(F1)	QUIT(F3)
SAVE(F5)	

Table 5-34

- Open the Lens Iris fully.
- Aim the Camera at the White Chart.
- Confirm that signal level becomes 805 ± 35 mV as shown in Fig. 5-35.

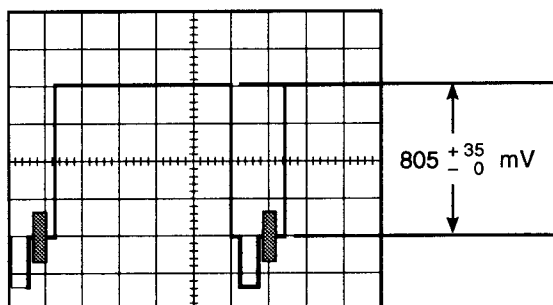


Fig. 5-35

- If not, adjust data with the **ARROW** keys so that signal level becomes 805 ± 35 mV as shown in Fig. 5-35.
- Press the **ENTER** key for next adjustment.

4.5.(D). Low Light Level Check

Test Point: Video Output Connector **Rear Panel**
Adjust: RAM0 (09D) **Digital Board**

- The menu as shown in Table 5-35 will be displayed.

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT: CP610 EEPROM: 0	
*****EVR***** PAL	
4.5.(2). LOW LIGHT LEVEL CHECK	
VIDEO OUT 210mV MIN.	

<DEVICE>	: RAM0
<ADDRESS>	: 09D
<DATA>	: 22 — 22
<MESSAGE>	:
<INSTRUCTION> ADJUST DATA BY ARROW-KEY. ROLLDOWN: PREVIOUS ITEM	
LOAD(F1)	QUIT(F3)
SAVE(F5)	

Table 5-35

- Aim the Camera at the Logarithmic Gray Scale Chart.
- Connect the terminated Oscilloscope with 75Ω to the Video Output Connector.
- Change the lighting from 1,400 lux to 3 lux.
- Confirm that the Video signal becomes 280 ± 35 mV as shown in Fig. 5-36.

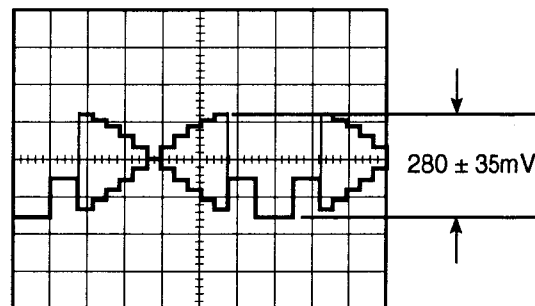


Fig. 5-36

- If not, adjust data with the **ARROW** keys so that the Video signal level becomes 280 ± 35 mV as shown in Fig. 5-36.
- Return the lighting from 3 lux to 1,400 lux.
- Press the **ENTER** key for next adjustment.

5.1.(A).1. Burst Level, Phase Adjustment

Test Point: Video Output Connector **Rear Panel**
Adjust: RAM0 (037) **Digital Board**

- The menu as shown in Table 5-36 will be displayed.

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT: CP610 EEPROM: 0	
*****EVR***** PAL	
5.1.(A).1. BURST LEVEL, PHASE	
VIDEO OUT 300 ± 10mV, PHASE 90DEG	

<DEVICE>	: RAM0
<ADDRESS>	: 037
<DATA>	: 15 — 15
<MESSAGE>	:
<INSTRUCTION> ADJUST DATA BY ARROW-KEY. ROLLDOWN: PREVIOUS ITEM	
LOAD(F1)	QUIT(F3)
SAVE(F5)	

Table 5-36

- Aim the Camera at the Logarithmic Gray Scale Chart.
- Connect the terminated Oscilloscope with 75Ω to the Video Output Connector.
- Adjust data with the **ARROW** keys so that the Burst level becomes 300 ± 10 mV as shown in Fig. 5-37.

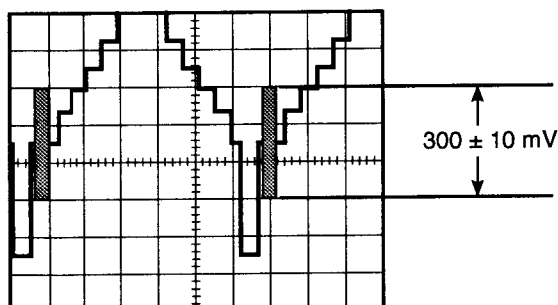


Fig. 5-37

- Press the **ENTER** key for next adjustment.

5.1.(A).2. Burst Level, Phase Adjustment

Test Point: Video Output Connector Rear Panel
Adjust: RAM0 (038) Digital Board

- The menu as shown in Table 5-37 will be displayed.

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT: CP610 EEPROM: 0	
*****EVR***** PAL	
5.1.(A).2. BURST LEVEL, PHASE	
VIDEO OUT 300 ± 10mV, PHASE 90DEG	

<DEVICE>	: RAM0
<ADDRESS>	: 038
<DATA>	: 56 — 56
<MESSAGE>	:
<INSTRUCTION> ADJUST DATA BY ARROW-KEY. ROLLDOWN: PREVIOUS ITEM	
LOAD(F1)	QUIT(F3)
SAVE(F5)	

Table 5-36

- Aim the Camera at the Logarithmic Gray Scale Chart.
- Set the Mode Switch of the Vectorscope to the "NTSC" position.
- Set the Gain Control of the Vectorscope to maximum.
- Connect the terminated Oscilloscope with 75Ω to the Video Output Connector.
- Adjust data with the **ARROW** keys so that the Burst Phase becomes $135 \pm 1^\circ$ as shown in Fig. 5-38.
- Change the Mode Switch of the Vectorscope from the "NTSC" position to the "PAL" position.
- Confirm that the phase difference in between the Bursts should be within $90 \pm 2^\circ$ as shown in Fig. 5-38.

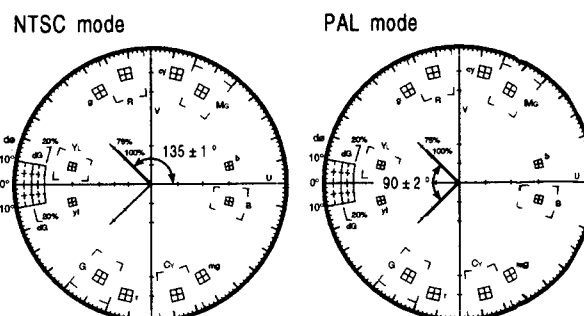


Fig. 5-38

- Repeat adjust from the 5.1.(A).1 and 5.1.(A).2 until both Burst level and Burst Phase satisfactory.
- Press the **ENTER** key for next adjustment.

5.1.(B). 3200K Chroma Phase Adjustment

Test Point: Video Output Connector **Rear Panel**
Adjust: RAM14 (E07) **Digital Board**

- The menu as shown in Table 5-38 will be displayed.

```

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT: CP610 EEPROM: 0
*****EVR***** PAL

5.1.(B). 3200K CHROMA PHASE
VIDEO OUT

*****
<DEVICE> : RAM14
<ADDRESS> : E07
<DATA> : 46 — 46
<MESSAGE> :

<INSTRUCTION> ADJUST DATA BY ARROW-KEY. ROLLDOWN: PREVIOUS ITEM
LOAD(F1) QUIT(F3) SAVE(F5)
  
```

Table 5-38

- Aim the Camera at the Logarithmic Gray Scale Chart.
- Adjust data with the **ARROW** keys so that both Red vectors much ($0 \pm 1^\circ$).
- Press the **ENTER** key for next adjustment.

5.2.(A).1. R White Balance 3200K Manual Offset Adjustment

Test Point: Video Output Connector **Rear Panel**
Adjust: RAM0 (074) **Digital Board**

- The menu as shown in Table 5-39 will be displayed.

```

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT: CP610 EEPROM: 0
*****EVR***** PAL

5.2.(A).1. WB 3200K MANU OFFSET R
VIDEO OUT <= 20mV

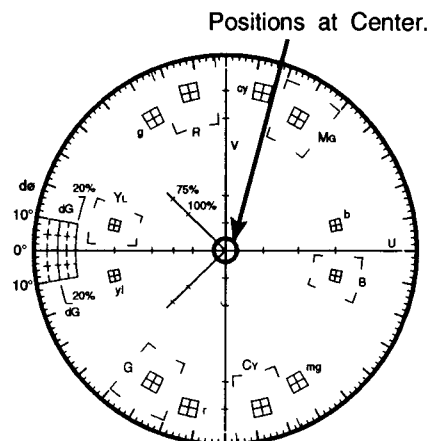
*****
<DEVICE> : RAM0
<ADDRESS> : 074
<DATA> : 33 — 33
<MESSAGE> :

<INSTRUCTION> ADJUST DATA BY ARROW-KEY. ROLLDOWN: PREVIOUS ITEM
LOAD(F1) QUIT(F3) SAVE(F5)
  
```

Table 5-39

- Aim the Camera at the White Chart.
- Set the Gain Control of the Vectorscope to maximum.

- Adjust data with the **ARROW** keys so that vector positions at the center of the Vectorscope as shown in Fig. 5-39.

**Fig. 5-39**

- Press the **ENTER** key for next adjustment.

5.2.(A).2. B White Balance 3200K Manual Offset Adjustment

Test Point: Video Output Connector **Rear Panel**
Adjust: RAM0 (075) **Digital Board**

- The menu as shown in Table 5-40 will be displayed.

```

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT: CP610 EEPROM: 0
*****EVR***** PAL

5.2.(A).2. WB 3200K MANU OFFSET B
VIDEO OUT <= 20mV

*****
<DEVICE> : RAM0
<ADDRESS> : 075
<DATA> : 67 — 67
<MESSAGE> :

<INSTRUCTION> ADJUST DATA BY ARROW-KEY. ROLLDOWN: PREVIOUS ITEM
LOAD(F1) QUIT(F3) SAVE(F5)
  
```

Table 5-40

- Aim the Camera at the White Chart.
- Set the Gain Control of the Vectorscope to maximum.
- Adjust data with the **ARROW** keys so that vector positions at the center of the Vectorscope as shown in Fig. 5-40.

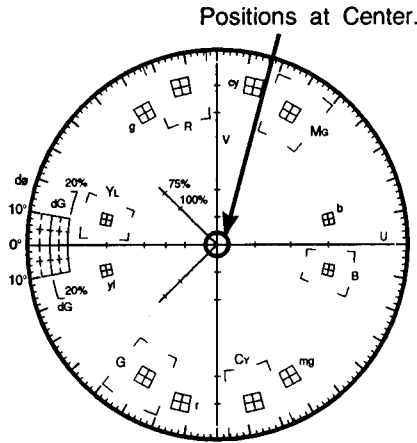


Fig. 5-40

- Repeat adjust from the 5.2.(A).1 and 5.2.(A).2 until vector positions at the center of the Vectorscope.
- Press the **ENTER** key for next adjustment.

5.2.(B).1. R White Balance 5100K ATW Limit Adjustment

Test Point: Video Output Connector **Rear Panel**
Adjust: RAM0 (07A) **Digital Board**

- The menu as shown in Table 5-41 will be displayed.

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT: CP610 EEPROM: 0	
*****EVR***** PAL	
5.2.(B).1. WB 5100K ATW LIMIT R	
VIDEO OUT <= 20mV	

<DEVICE>	: RAM0
<ADDRESS>	: 07A
<DATA>	: 59 — 59
<MESSAGE>	:
<INSTRUCTION> ADJUST DATA BY ARROW-KEY. ROLLDOWN: PREVIOUS ITEM	
LOAD(F1)	QUIT(F3)
SAVE(F5)	

Table 5-41

- Aim the Camera at the White Chart.
- Change the colour temperature from the 3200K to 5100K.
- Set the Gain Control of the Vectorscope to maximum.
- Adjust data with the **ARROW** keys so that vector positions at the center of the Vectorscope as shown in Fig. 5-41.

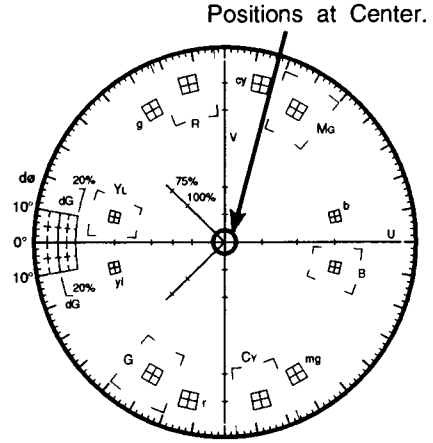


Fig. 5-41

- Press the **ENTER** key for next adjustment.

5.2.(B).2. B White Balance 5100K ATW Limit Adjustment

Test Point: Video Output Connector **Rear Panel**
Adjust: RAM0 (07A) **Digital Board**

- The menu as shown in Table 5-42 will be displayed.

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT: CP610 EEPROM: 0	
*****EVR***** PAL	
5.2.(B).2. WB 5100K ATW LIMIT B	
VIDEO OUT <= 20mV	

<DEVICE>	: RAM0
<ADDRESS>	: 07B
<DATA>	: 6A — 6A
<MESSAGE>	:
<INSTRUCTION> ADJUST DATA BY ARROW-KEY. ROLLDOWN: PREVIOUS ITEM	
LOAD(F1)	QUIT(F3)
SAVE(F5)	

Table 5-42

- Aim the Camera at the White Chart.
- Set the Gain Control of the Vectorscope to maximum.
- Adjust data with the **ARROW** keys so that vector positions at the center of the Vectorscope as shown in Fig. 5-42.

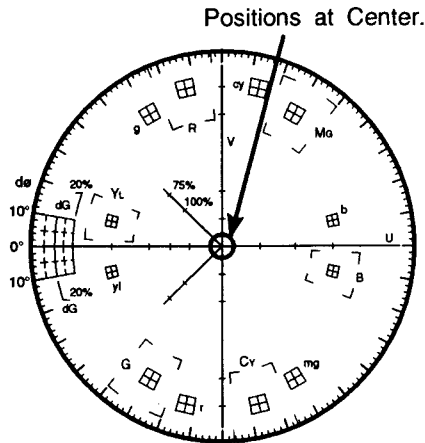


Fig. 5-42

- Repeat adjust from the 5.2.(B).1 and 5.2.(B).2 until vector positions at the center of the Vectorscope.
- Press the **ENTER** key for next adjustment.

5.3.(A).1. 3200K R_Gain Adjustment

Test Point: Video Output Connector **Rear Panel**

Adjust: RAM0 (078) **Digital Board**

- The menu as shown in Table 5-43 will be displayed.

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT:CP610 EEPROM:0	
*****EVR***** PAL	
5.3.(A).1. 3200K R_GAIN	
VIDEO OUT	

<DEVICE>	: RAM0
<ADDRESS>	: 078
<DATA>	: 83 — 83
<MESSAGE>	:
<INSTRUCTION> ADJUST DATA BY ARROW-KEY. ROLLDOWN: PREVIOUS ITEM	
LOAD(F1)	QUIT(F3) SAVE(F5)

Table 5-43

- Aim the Camera at the Colour Chip Chart.
- Return the colour temperature from the 5100K to 3200K.
- Adjust data with the **ARROW** keys so that the Red gain becomes 220 ± 5 %.
- Press the **ENTER** key for next adjustment.

5.3.(A).2. 3200K B_Gain Adjustment

Test Point: Video Output Connector **Rear Panel**

Adjust: RAM0 (079) **Digital Board**

- The menu as shown in Table 5-44 will be displayed.

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT:CP610 EEPROM:0	
*****EVR***** PAL	
5.3.(A).2. 3200K B_GAIN	
VIDEO OUT	

<DEVICE>	: RAM0
<ADDRESS>	: 079
<DATA>	: 50 — 50
<MESSAGE>	:
<INSTRUCTION> ADJUST DATA BY ARROW-KEY. ROLLDOWN: PREVIOUS ITEM	
LOAD(F1)	QUIT(F3) SAVE(F5)

Table 5-44

- Adjust data with the **ARROW** keys so that the Yellow gain becomes 120 ± 5 %.
- Press the **ENTER** key for next adjustment.

5.3.(A).3. 3200K R_Matrix Adjustment

Test Point: Video Output Connector **Rear Panel**

Adjust: RAM0 (076) **Digital Board**

- The menu as shown in Table 5-45 will be displayed.

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT:CP610 EEPROM:0	
*****EVR***** PAL	
5.3.(A).3. 3200K R_MATRIX	
VIDEO OUT	

<DEVICE>	: RAM0
<ADDRESS>	: 076
<DATA>	: 2D — 2D
<MESSAGE>	:
<INSTRUCTION> ADJUST DATA BY ARROW-KEY. ROLLDOWN: PREVIOUS ITEM	
LOAD(F1)	QUIT(F3) SAVE(F5)

Table 5-45

- Adjust data with the **ARROW** keys so that the Red vector phase becomes $104 \pm 2^\circ$.
- Repeat adjust from the 5.3.(A).1 and 5.3.(A).3. until both chrominance phase and gain are adjusted to proper position as shown in Fig. 5-43 and Table 5-46.

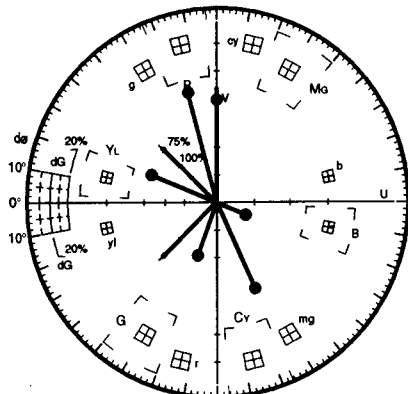


Fig. 5-43

	Red	Yellow
Phase	$104 \pm 2^\circ$	$160 \pm 2^\circ$
Gain	$220 \pm 5 \%$	$120 \pm 5 \%$

Table 5-46

- Press the **ENTER** key for next adjustment.

5.3.(B).1. 5100K R_Gain Adjustment

Test Point: Video Output Connector **Rear Panel**

Adjust: RAM0 (05C) **Digital Board**

- The menu as shown in Table 5-47 will be displayed.

```

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT: CP610 EEPROM: 0
*****EVR***** PAL

5.3.(B).1. 5100K R_GAIN
VIDEO OUT

*****
<DEVICE> : RAM0
<ADDRESS> : 05C
<DATA> : DB — DB
<MESSAGE> :

<INSTRUCTION> ADJUST DATA BY ARROW-KEY. ROLLDOWN: PREVIOUS ITEM
LOAD(F1) QUIT(F3) SAVE(F5)
  
```

Table 5-47

- Aim the Camera at the Colour Chip Chart.
- Change the colour temperature from the 3200K to 5100K.
- Adjust data with the **ARROW** keys so that the Red gain becomes $220 \pm 5 \%$.
- Press the **ENTER** key for next adjustment.

5.3.(B).2. 5100K B_Gain Adjustment

Test Point: Video Output Connector **Rear Panel**

Adjust: RAM0 (05E) **Digital Board**

- The menu as shown in Table 5-48 will be displayed.

```

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT: CP610 EEPROM: 0
*****EVR***** PAL

5.3.(B).2. 5100K B_GAIN
VIDEO OUT

*****
<DEVICE> : RAM0
<ADDRESS> : 05E
<DATA> : 00 — 00
<MESSAGE> :

<INSTRUCTION> ADJUST DATA BY ARROW-KEY. ROLLDOWN: PREVIOUS ITEM
LOAD(F1) QUIT(F3) SAVE(F5)
  
```

Table 5-48

- Aim the Camera at the Colour Chip Chart.
- Change the colour temperature from the 3200K to 5100K.
- Adjust data with the **ARROW** keys so that the Yellow gain becomes $100 \pm 5 \%$.
- Repeat adjust from the 5.3.(B).1 and 5.3.(B).2. until both chrominance phase and gain are adjusted to proper position as shown in Fig. 5-44 and Table 5-49.

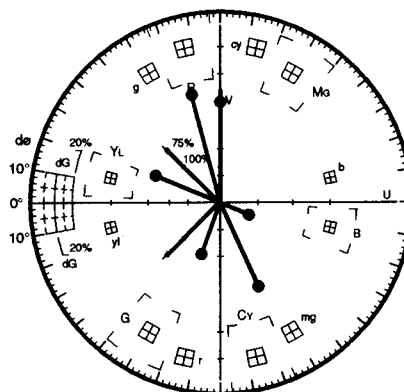


Fig. 5-44

	Red	Yellow
Phase	$104 \pm 2^\circ$	$160 \pm 2^\circ$
Gain	$220 \pm 5 \%$	$100 \pm 5 \%$

Table 5-46

- Press the **ENTER** key for next adjustment.

5.4. Highlight Chroma Clip Adjustment

Test Point: Video Output Connector **Rear Panel**
Adjust: RAM0 (01F) **Digital Board**

- The menu as shown in Table 5-50 will be displayed.

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT: CP610 EEPROM: 0	
*****EVR***** PAL	
5.3.(B).1. 5100K R_GAIN	
VIDEO OUT	

<DEVICE>	: RAM0
<ADDRESS>	: 05C
<DATA>	: DB -- DB
<MESSAGE>	:
<INSTRUCTION> ADJUST DATA BY ARROW-KEY. ROLLDOWN: PREVIOUS ITEM	
LOAD(F1)	QUIT(F3) SAVE(F5)

Table 5-50

- Aim the Camera at the White Chart.
- Return the colour temperature from the 5100K to 3200K.
- Open the Lens Iris fully.
- Adjust data with the **ARROW** keys so that the false chrominance level becomes minimum as shown in Fig. 5-45.

Note: The Data of 01F should be adjust from FF, the first minimum point of the false chrominance signal is an adjusting point.

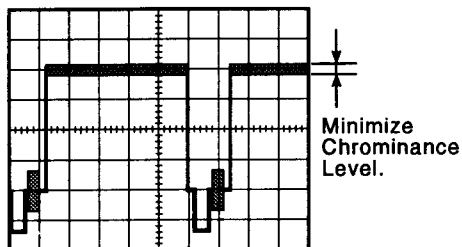


Fig. 5-45

- After completing of the adjustment, press the **QUIT (F3)** key, then the menu as shown in Table 5-51 will be displayed.

PANASONIC EVR ADJUSTMENT SYSTEM (C)MCI Co. PRODUCT: CP610 EEPROM: 0	
*****EVR***** PAL	
5.4. HIGHLIGHT CHROMA CLIP	
VIDEO OUT 840 +35 -0mV	

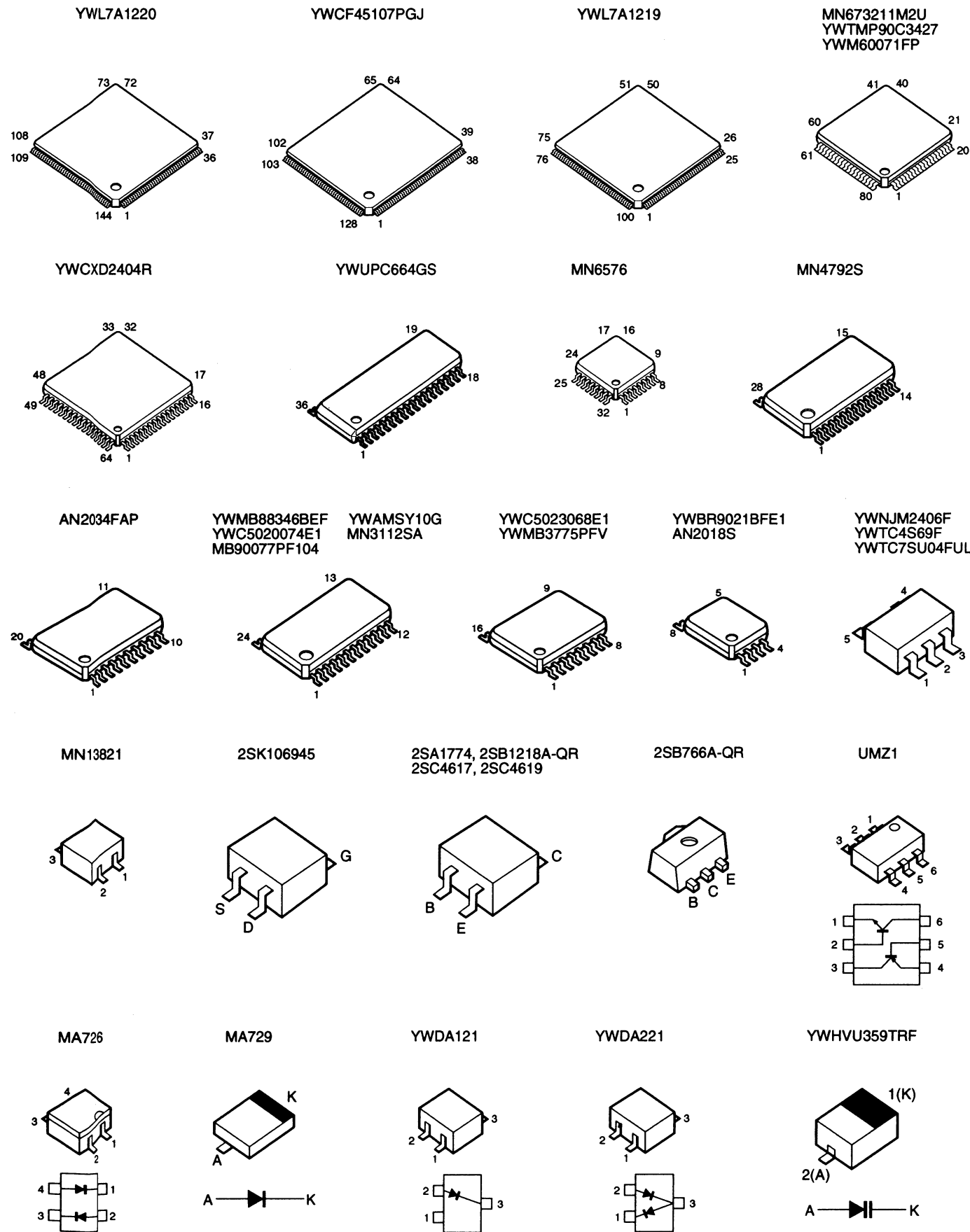
<DEVICE>	: RAM0
<ADDRESS>	: 01F
<DATA>	: D2 -- D2
<MESSAGE>	:
< SAVE CAMERA DATA TO FILE: *** .EVR? Y/N >	
LOAD(F1)	QUIT(F3) SAVE(F5)

Table 5-51

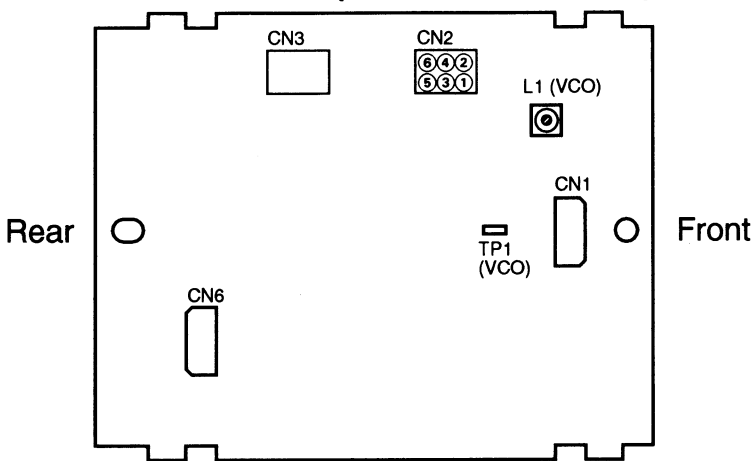
- Press the **N** key, and then press the **ENTER** key to finish of this adjustment procedure.
- Disconnect the cable from CN3 on the Drive Board.

APPEARANCE OF IC, TRANSISTOR AND DIODE

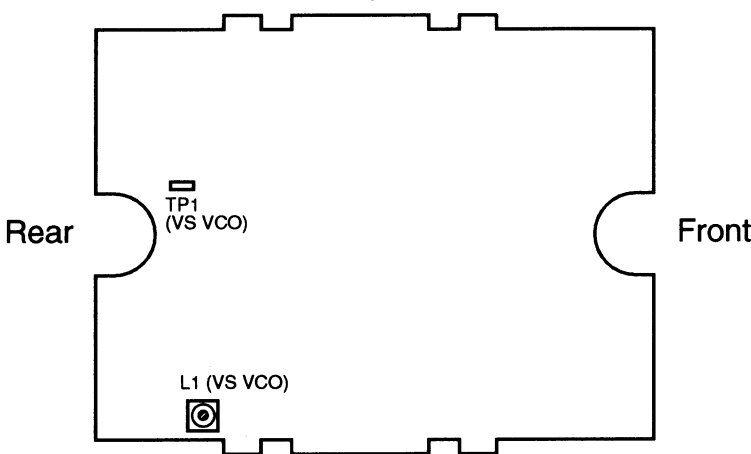
LOCATION OF TEST POINTS AND ADJUSTING CONTROL



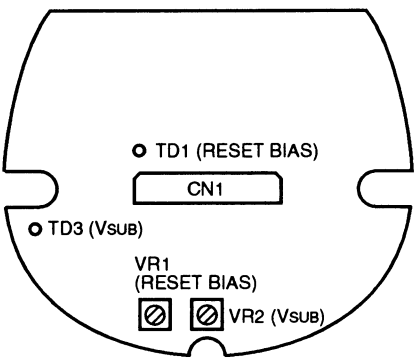
DRIVE BOARD (COMPONENT SIDE)



DIGITAL BOARD (COMPONENT SIDE)



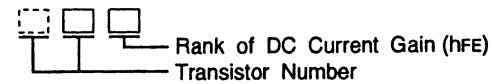
SENSOR BOARD (PATTERN SIDE)



CHIP COMPONENTS

1. Chip Transistor

The transistor number is indicated on the top surface of the chip transistor using two alphabet letters or one numerical number and two alphabet letters.



Transistor Number (Chip Transistor)

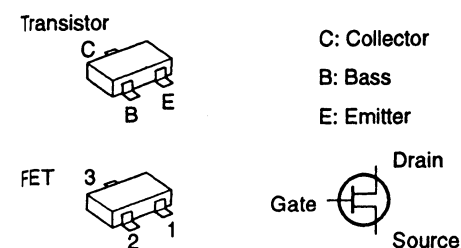
Letter	Transistor No.	Letter	Transistor No.
A	2SB709	X	2SD602A
B	2SB709A	Y	2SD601
C	2SB710	Z	2SD601A
D	2SB710A	1A	2SB799
E	2SA1022	1B	2SB814
F	2SA1034	1C	2SB902
H	2SA1035	1F	2SK321
I	2SB792	1K	2SK316
K	2SC2778	1L	2SK247
P	2SD814	1M	2SJ84
Q	2SD813	1N	2SK199
R	2SC2480	1O	2SK198
S	2SC2405	1T	2SC3077
T	2SC2406	1X	2SC2845
U	2SC2404	1Z	2SD1030
V	2SC2295	2B	2SK374
W	2SD602	2C	2SK116
BQ	2SB766A	UMT	2SC4081

(Small Chip Transistor) (Pair Transistor)

Letter	Transistor No.	Letter	Transistor No.	Letter	Transistor No.
A	2SB1218	5R	XN1501	5H	XP4501
B	2SB1218A	7S	XN1601	5C	XP4601
D	2SB1219A	5H	XN4501	5H	XP4501
U	2SC3931	5C	XN4601	5L	XP5501
W	2SD1820	5L	XN5501	4N	XP5601
X	2SD1820A	4N	XN5601	7S	XP6501
Y	2SD1819	5N	XN6501	7W	XP6435
E3	2SA1226	7W	XN6435	7F	XP6534
OS	2SB1219	7F	XN6534	X1	UMX1
UC	2SA1532	5R	XP1501	Z1	UMZ1
YU	2SC3938	7S	XP1601		

Example: WQ → 2SD602-Q
YQ → 2SD601-Q
1BS → 2SB814-S

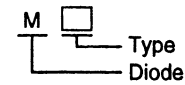
Appearance and Symbols



	1	2	3
Ecept 2SK199	Drain	Source	Gate
2SK199	Gate	Drain	Source

2. Chip Diode

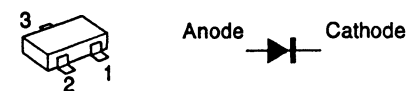
The diode number is indicated on the top surface of the chip diode using two alphabet letters.



Diode Number

	1	2	3
MA28/MA28W/MA28T	—	Anode	Cathode
MA151K/MA152K	—	Anode	Cathode
MA151A/MA152A	—	Cathode	Anode
MA151WK/MA152WK	Anode	Anode	Cathode
MA151WA/MA152WA	Cathode	Cathode	Anode
MA153	Cathode	Anode	Common
MA141K	—	Anode	Cathode
MA143	Anode	Cathode	Common
MA3062	Anode	—	Cathode
RD421D	Anode	—	Cathode

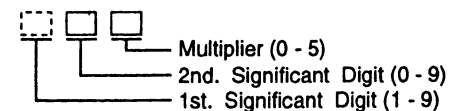
Appearance and Symbol



	1	2	3
MA28/MA28W/MA28T	—	Anode	Cathode
MA151K/MA152K	—	Anode	Cathode
MA151A/MA152A	—	Cathode	Anode
MA151WK/MA152WK	Anode	Anode	Cathode
MA151WA/MA152WA	Cathode	Cathode	Anode
MA153	Cathode	Anode	Common
MA141K	—	Anode	Cathode
MA143	Anode	Cathode	Common
MA3062	Anode	—	Cathode
RD421D	Anode	—	Cathode

3. Chip Resistor

The resistor value is indicated on the bottom surface of the chip resistor using three digit numbers.



Example:

330 → $33 \times 10^0 = 33 \Omega$
561 → $56 \times 10^1 = 560 \Omega$
123 → $12 \times 10^3 = 12 \text{ k}\Omega$

Note: Zero ohm resistor (jumper chip) is colored red or green.

4. Chip Capacitor

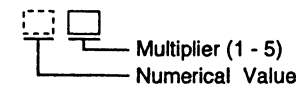
The capacitive value of replacement chip capacitors is indicated on the bottom surface. original parts do not have value indication.

If the capacitive value is less than 100 pF, the value will be indicated by one or two digit number expressing the capacity directly in pF.

Example:

0.5 → 0.5 pF 2.5 → 2.5 pF
.75 → 0.75 pF 33 → 33 pF
1 → 1 pF 82 → 82 pF

If the capacitive value is 100 pF or greater, the value will be indicated by an alpha-numeric code. The letter precedes the number and expresses a numerical value to be multiplied by the number which follows.



Numerical Value

Letter	Value	Letter	Value
A	10	N	33
B	11	P	36
C	12	Q	39
D	13	R	43
E	15	S	47
F	16	T	51
G	18	U	56
H	20	V	62
J	22	W	68
K	24	X	75
L	27	Y	82
M	30	Z	91

* Letters I and O are not used.

Example: A1 → $10 \times 10^1 = 100 \text{ pF}$
N2 → $33 \times 10^2 = 3300 \text{ pF}$
S3 → $47 \times 10^3 = 47000 \text{ pF}$

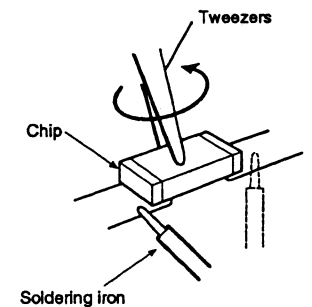
5. Precautions in replacing the chip component

1. Make sure that the unit is turned OFF when replacing the chip.
2. Use tweezers to prevent any damage to the chip surface.
3. Do not re-use the chips after removal.
4. Do not rub the electrode of chips.
5. Do not subject the chips to excessive stress.
6. It is recommended that a pencil-type soldering iron to be used.
7. The solder whose diameter is less than 0.5 mm is recommended.
8. Do not heat the chip beyond 3 second.
9. Maintain temperature control under 260°C (500°F) when soldering.

5-1 Removal (Transistor, Diode, Resistor and Capacitor)

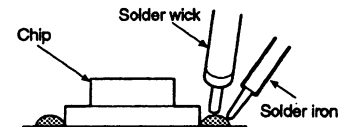
1. Add the solder to both ends of the chip (three leads for chip transistor).
2. While attaching the soldering iron to both ends of the chip (three leads for chip transistor) as shown below, remove the chip by turning with tweezers.

Note: Be careful not to damage other chips.

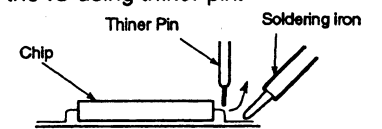


5-2 Removal (IC)

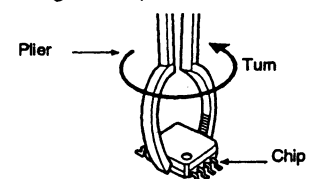
1. Add the solder wick and soldering iron to each lead of the IC and remove solder.



2. Add the soldering iron to each lead of the IC and left each lead of the IC using thinner pin.

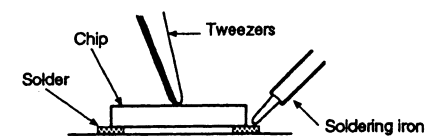


3. Remove IC turning it with plier.

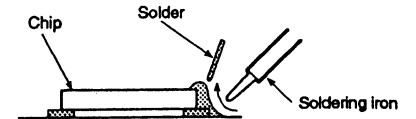


5-3 Mounting

1. Place the solder thinly on the chip mounting foil.
2. Solder the chip temporarily while holding the chip with the tweezers.



3. Solder both ends of chip (three leads for chip transistor).

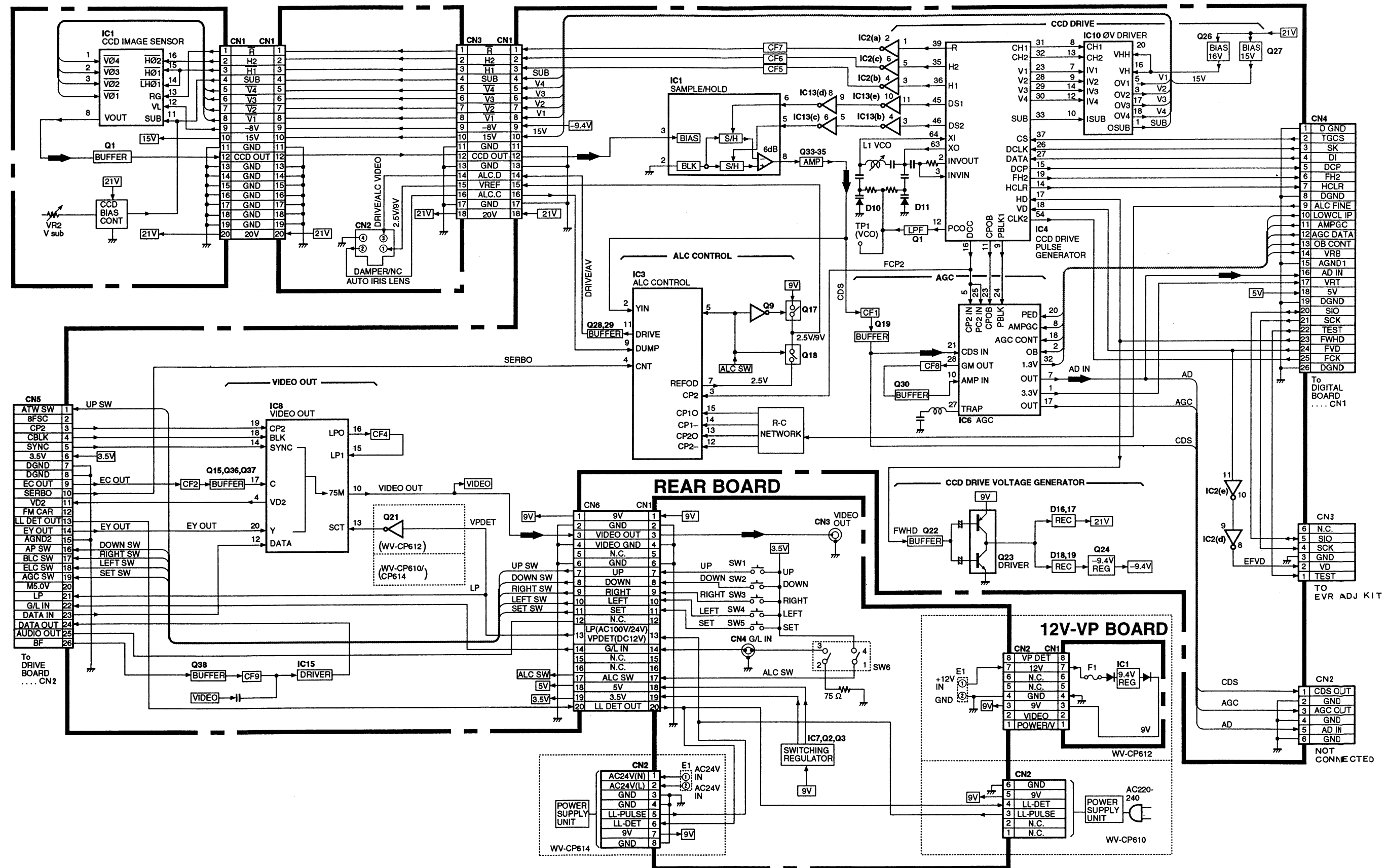


BLOCK DIAGRAM OF DRIVE BOARD

SENSOR BOARD

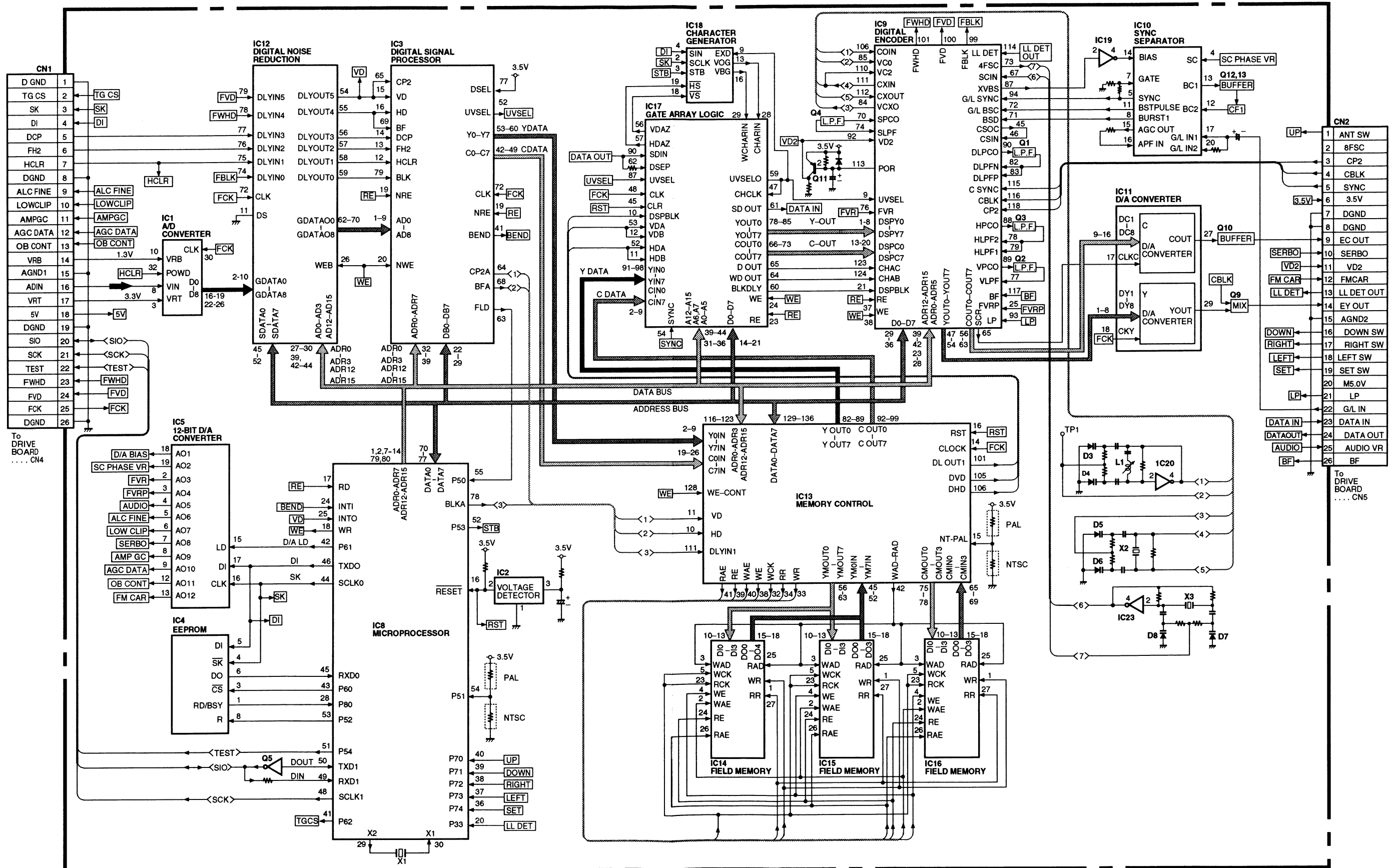
ALC BOARD

DRIVE BOARD

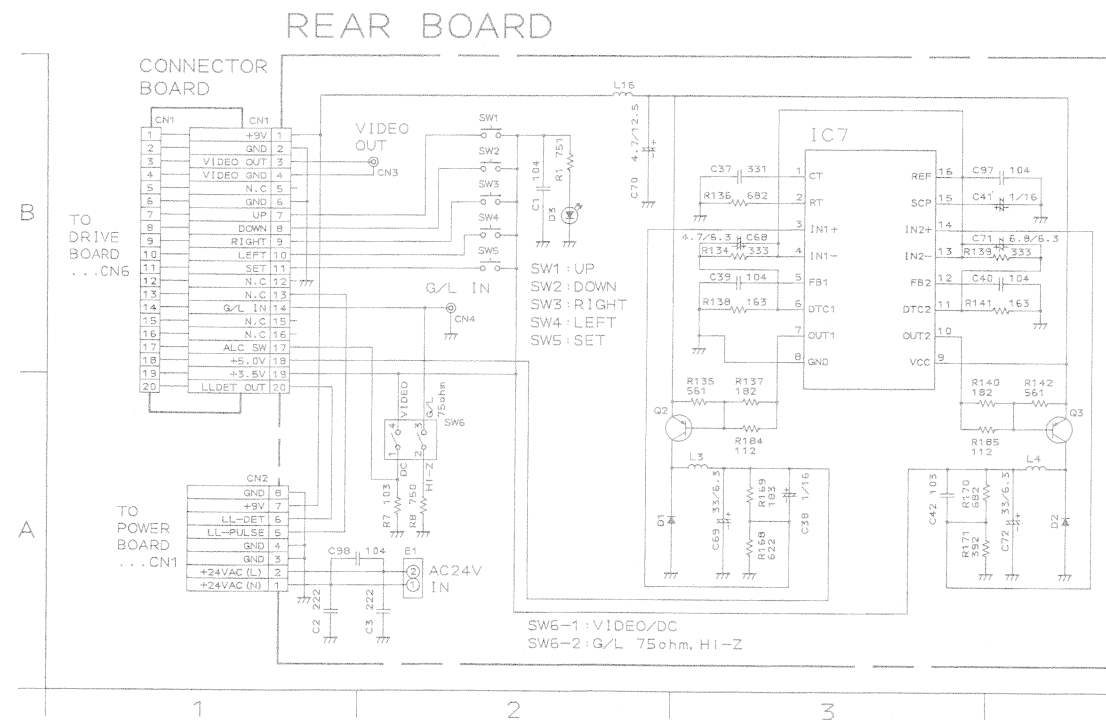


BLOCK DIAGRAM OF DIGITAL BOARD

DIGITAL BOARD



SCHEMATIC DIAGRAM OF REAR BOARD (WV-CP614)



Note: The value indicated in schematic diagram should be read as follows:

<Example>
 Foo Bar

For Resistor:

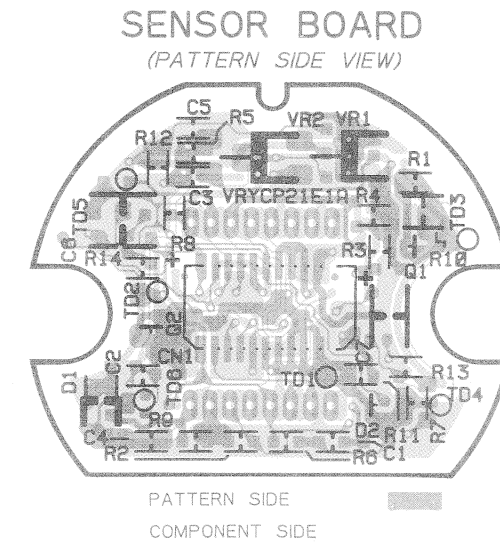
330 $\rightarrow 33 \times 10^0 = 33\Omega$
561 $\rightarrow 56 \times 10^1 = 560\Omega$
123 $\rightarrow 12 \times 10^3 = 12k\Omega$
0R00 $= 0\Omega$

For Capacitor;

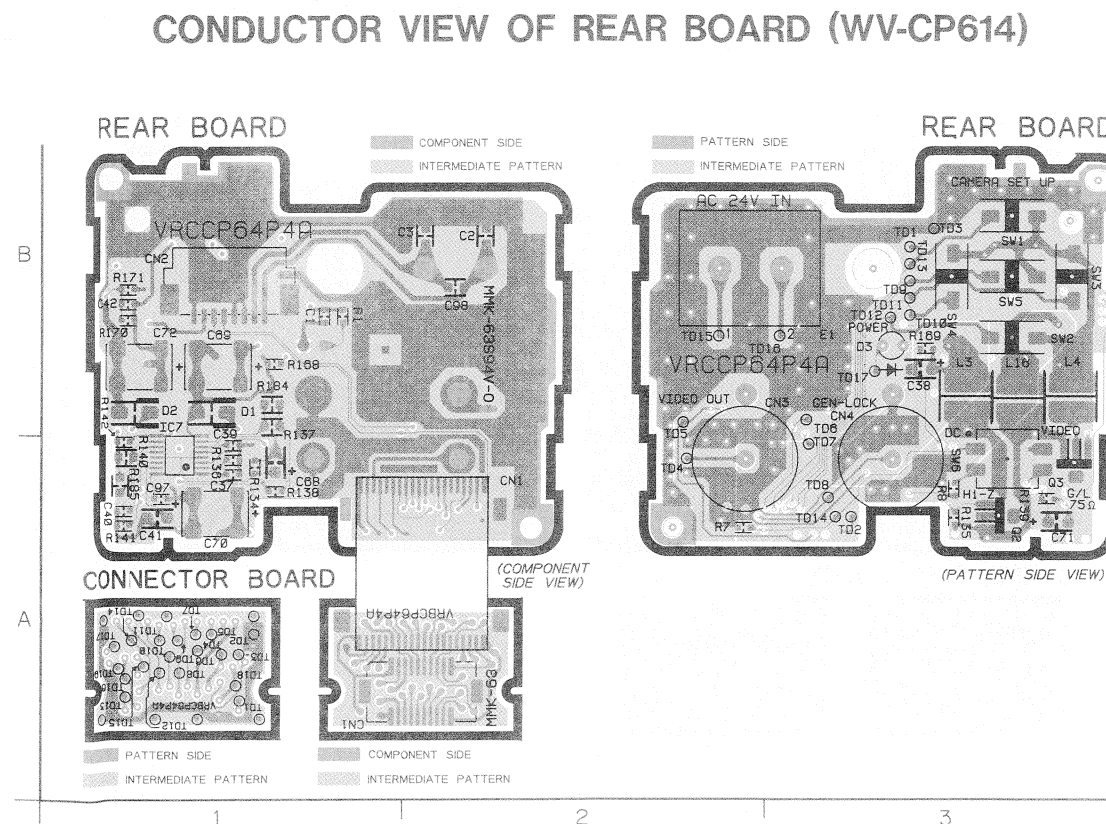
820	→	82×10^0	= 82pF
102	→	10×10^2	= 1000pF = 0.001μF
104	→	10×10^4	= 100000pF = 0.1μF

The suffix attached to capacitance indicates a type of capacitor.

CONDUCTOR VIEW OF SENSOR BOARD



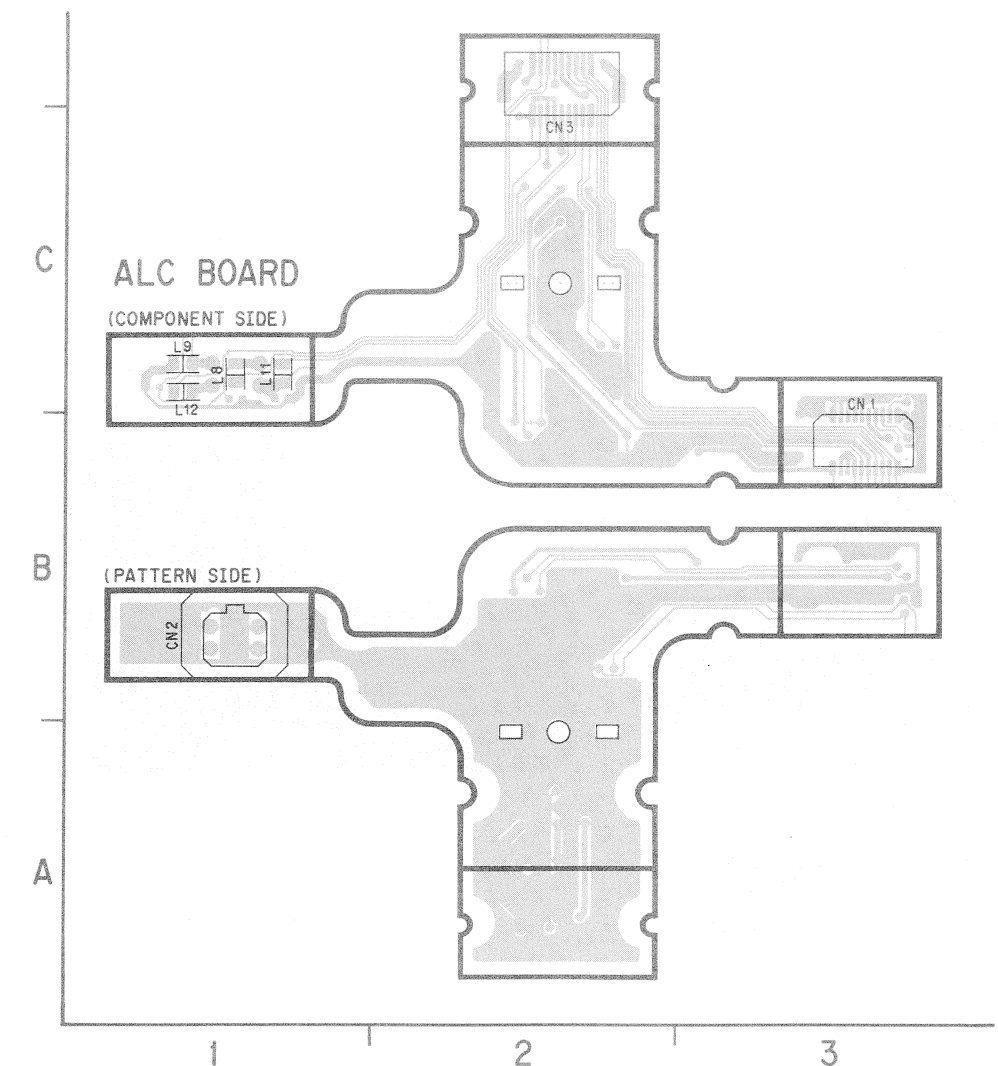
CONDUCTOR VIEW OF ALC BOARD



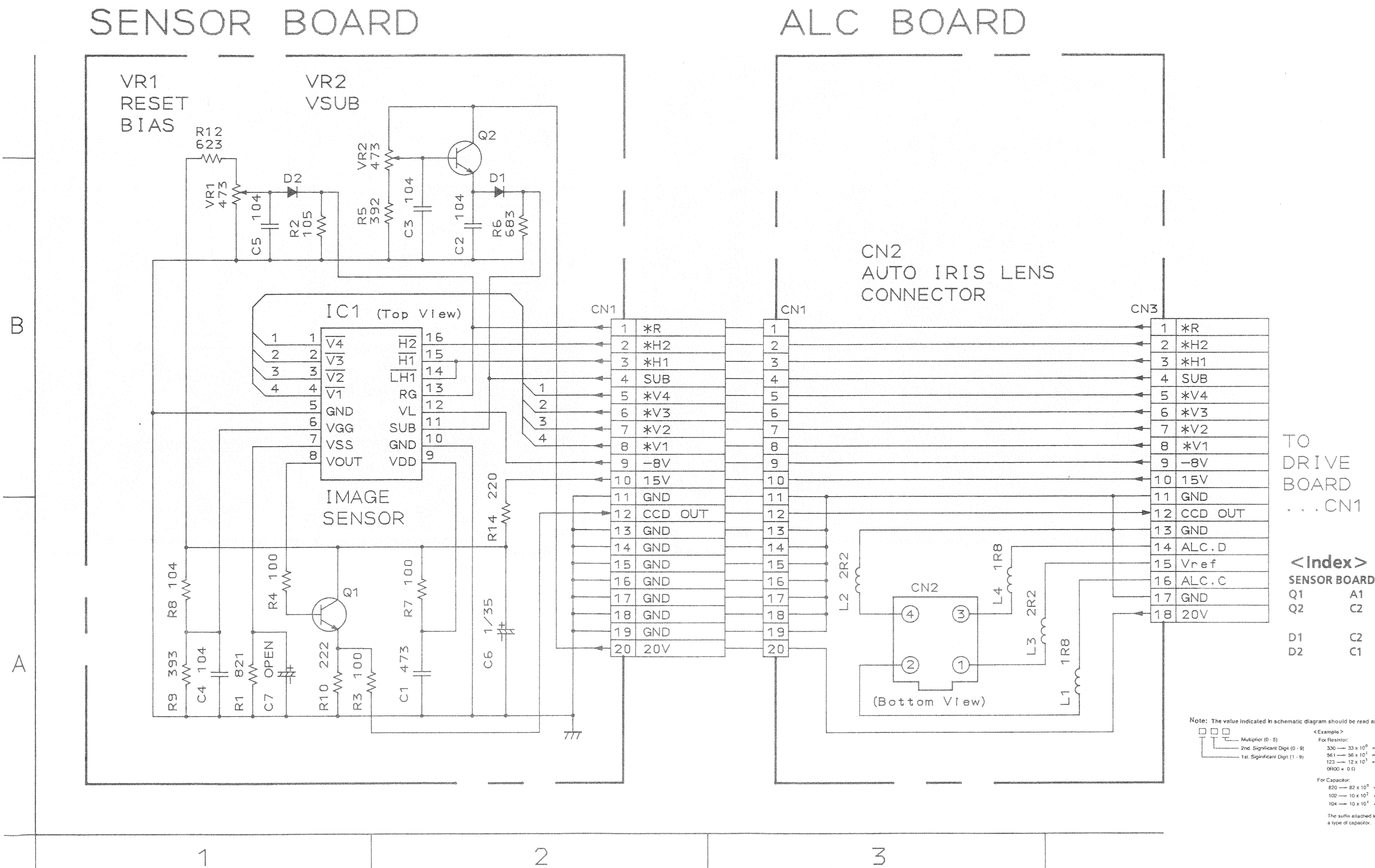
< Voltages >

REAR BOARD

	IC1
Pin 1	1.6
2	1.2
3	1.3
4	1.4
5	1.6
6	0.5
7	4.8
8	0
9	8.8
10	6.2
11	0.6
12	0.9
13	1.3
14	1.3
15	-
16	1.3



SCHEMATIC DIAGRAM OF SENSOR, ALC BOARD



TO
DRIVE
BOARD
... CN1

<Index>

SENSOR BOARD

Q1	A1
Q2	C2
D1	C2
D2	C1

Note: The value indicated in schematic diagram should be read as follows:

□ □ □

Multiplicator (0 - 5)

2nd. Significant Digit (0 - 9)

1st. Significant Digit (1 - 9)

<Example>

For Resistor:

330	→	$33 \times 10^0 = 33\Omega$
561	→	$56 \times 10^1 = 560\Omega$
123	→	$12 \times 10^3 = 12k\Omega$
0900	→	0Ω

For Capacitor:

820	→	$82 \times 10^0 = 82pF$
102	→	$10 \times 10^2 = 1000pF = 0.001\mu F$
104	→	$10 \times 10^4 = 100000pF = 0.1\mu F$

The suffix attached to capacitance indicates a type of capacitor.

CONDUCTOR VIEW OF DRIVE BOARD

<Voltages>

DRIVE BOARD

Pin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IC1	1.7	2.5	0	0	2.1											
IC2	0	1.1	3.0	4.9	0											
IC3	2.8	1.3	0.1	0.8	2.3											
IC4	4.9	2.5	2.7	3.6	0											
IC5	1.2	1.6	0	3.6	4.9											
IC6	1.2	2.0	2.2	1.2												
IC7	0	0	2.4	0												
IC8	1.7	0.1	8.7	1.2												
IC9	4.8	-	3.6													
IC10	4.8	4.8	3.6													
IC11	0.1	0.2	0.8													
IC12	0	2.6	0													
IC13	4.9	4.1	4.9													
IC14	4.9	3.9	4.9													
IC15	0.1															
IC16	2.4															

Pin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IC4	1.3	3.3														
IC6	1.7	2.8														
IC7	1.7	1.5														
IC8	3.4	0														
IC9	3.4	0.1														
IC10	6	0	3.3													
IC11	7	0	1.5													
IC12	8	0	2.9													
IC13	9	0.1	0													
IC14	10	0.1	1.9													
IC15	11	0.1	1.7													
IC16	12	1.5	1.8													
IC17	13	0	0													
IC18	14	0.3	1.8													
IC19	15	0.1	1.8													
IC20	16	0.1	1.8													
IC21	17	0.5	1.7													
IC22	18	0.1	0.6													
IC23	19	1.7	1.8													
IC24	20	0.3	1.9													
IC25	21	0	2.2													
IC26	22	3.4	-													
IC27	23	0.1	0.1													
IC28	24	0	0.7													
IC29	25	3.4	0.1													
IC30	26	3.4	4.8													
IC31	27	3.3	1.8													
IC32	28	0.1	1.8													
IC33	29	3.1	1.8													
IC34	30	3.1	1.8													
IC35	31	3.4	1.8													
IC36	32	3.4	1.3													
IC37	33	3.4														
IC38	34	3.4														
IC39	35	1.5														
IC40	36	1.2														
IC41	37	3.4														
IC42	38	3.4														
IC43	39	2.4														
IC44	40	0														
IC45	41	1.5														
IC46	42	1.3														
IC47	43	0														
IC48	44	3.4														
IC49	45	0.8														
IC50	46	0.8														
IC51	47	0														
IC52	48	0														
IC53	49	1.3														
IC54	50	0														

Pin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IC4	3.4															
IC6	1.7	-8.6														
IC7	2	1.9	-8.6													
IC8	3	0	-0.3													
IC9	4	3.3	0													
IC10	5	1.9	-0.3													
IC11	6	0	3.4													
IC12	7	2.2	0.1													
IC13	8	4.7	3.4													
IC14	9	2.2	0.1													
IC15	10	1.6	3.4													
IC16	11	2.4	1.2													
IC17	12	0	3.2													
IC18	13	1.6	3.3													
IC19	14	3.1	3.2													
IC20	15	2.1	0													
IC21	16	2.2	15.3													
IC22	17	1.9	-8.1													
IC23	18	0.9	-8.1													
IC24	19	0.1	0													
IC25	20	2.7	15.3													

Pin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IC23	7.4															
IC24	2	8.1														
IC25	3	8.7														
IC26	4	7.4														
IC27	5	-0.3														
IC28	6	0														
IC29	7	0	8.7	0												
IC30	8	3.1	4.9	2.5												
IC31	9	8.7	2.4	8.7												
IC32	10	1.8	2.4	2.4												
IC33	11	0.8	0	1.4												
IC34	12	0.5	8.7	1.5												
IC35	13	-9.2	0	-8.6												
IC36	14	15.8	0	15.3												
IC37	15	14.4	0	13.8												
IC38	16	0.2	0	0.8												
IC39	17	0.8	4.9	0.3												
IC40	18	2.0	4.9	1.4												
IC41	19	1.6	4.8	0.9												
IC42	20	1.5	2.5	0.8												
IC43	21	2.4	4.9	1.8												
IC44	22	2.0	3.1	1.3												
IC45	23	1.9	4.8	1.2												
IC46	24	0.5	0.5	0.6												

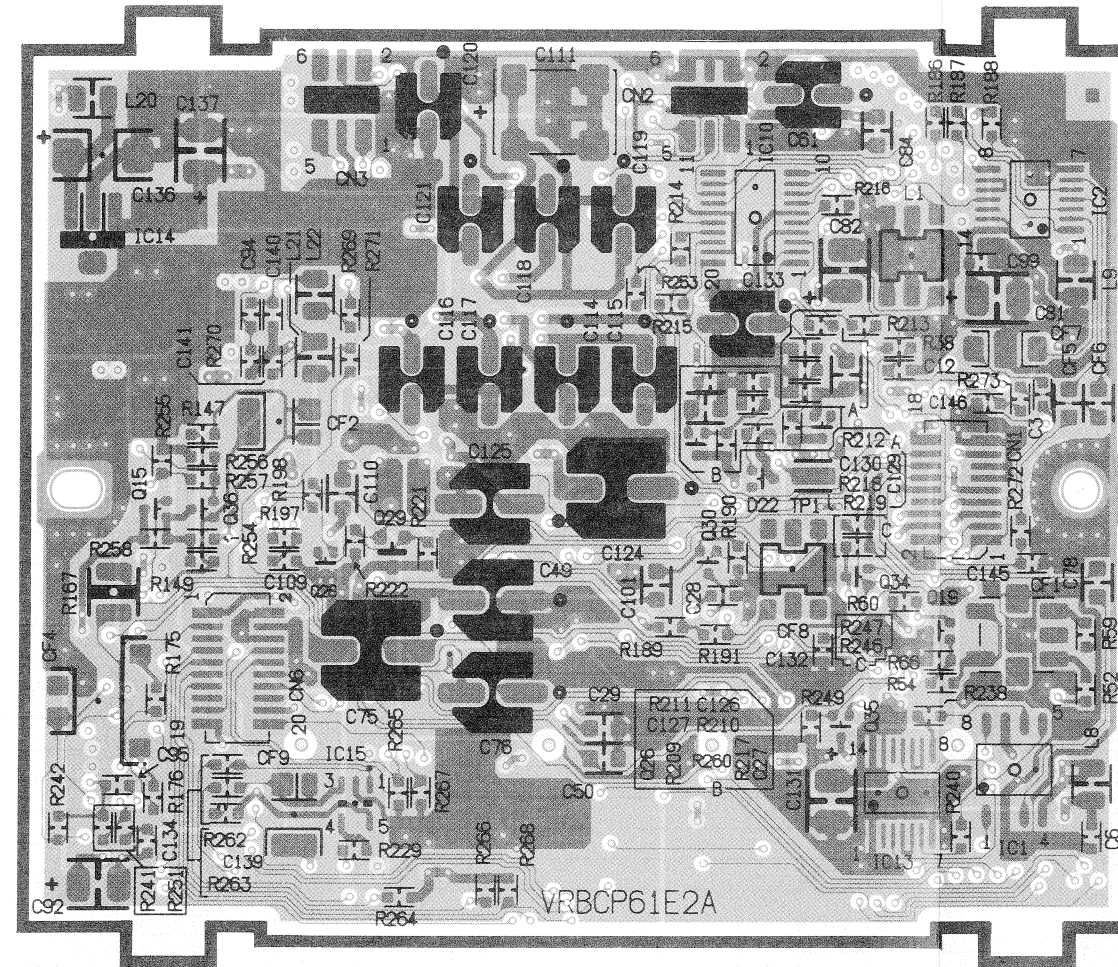
<Index>

DRIVE BOARD

IC1	A3	Q19	A2	D3	B3
IC2	B3	Q22	B5	D10	B4
IC3	B5	Q23	B4	D11	B4
IC4	B4	Q24	B4	D14	B4
IC6	A4	Q26	B2	D15	B4
IC8	A5	Q27	B2	D16	B4
IC10	B2	Q28	B1	D17	B4
IC13	A2	Q29	B1	D18	B5
IC15	A1	Q30	B2	D19	B4
		Q33	A3	D20	B4
		Q34	A2	D23	B5
Q1	B4	Q35	A2		
Q9	A5	Q36	B1		
Q15	B1	Q37	A5		
Q17	A5	Q38	A5		
Q18	B5				

DRIVE BOARD

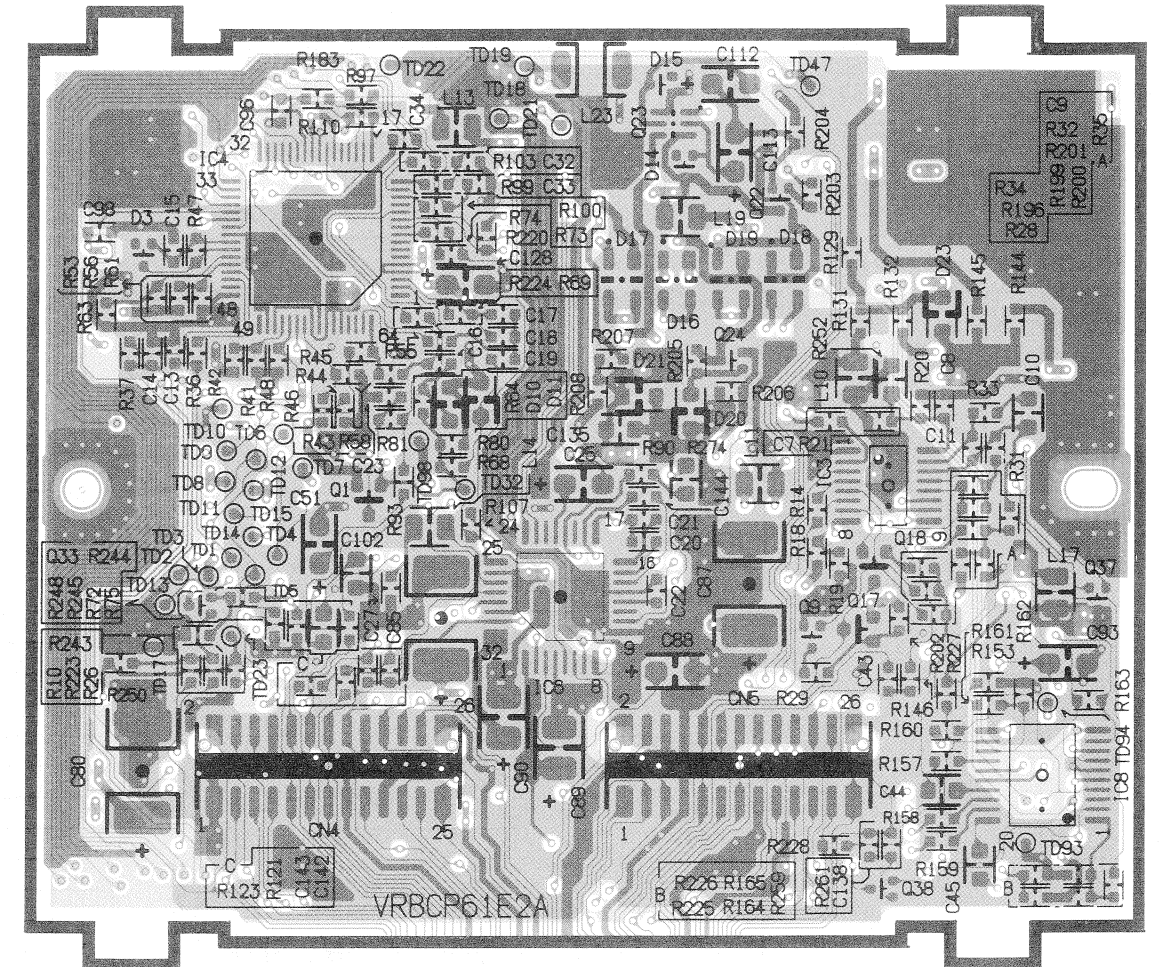
(COMPONENT SIDE VIEW)



COMPONENT SIDE
INTERMEDIATE PATTERN - 1
INTERMEDIATE PATTERN - 2

(PATTERN SIDE VIEW)

DRIVE BOARD

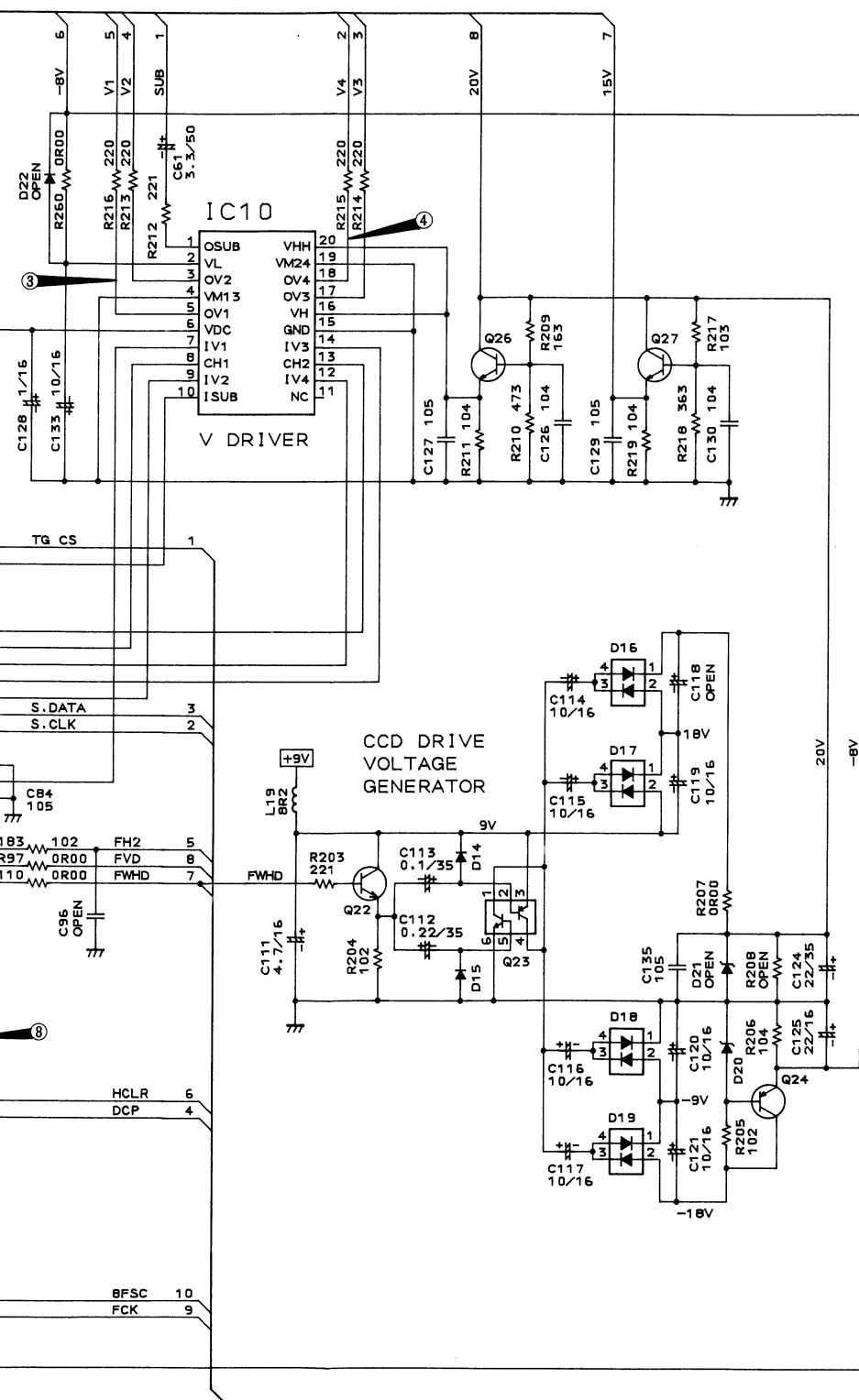


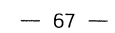
PATTERN SIDE
INTERMEDIATE PATTERN - 1
INTERMEDIATE PATTERN - 2

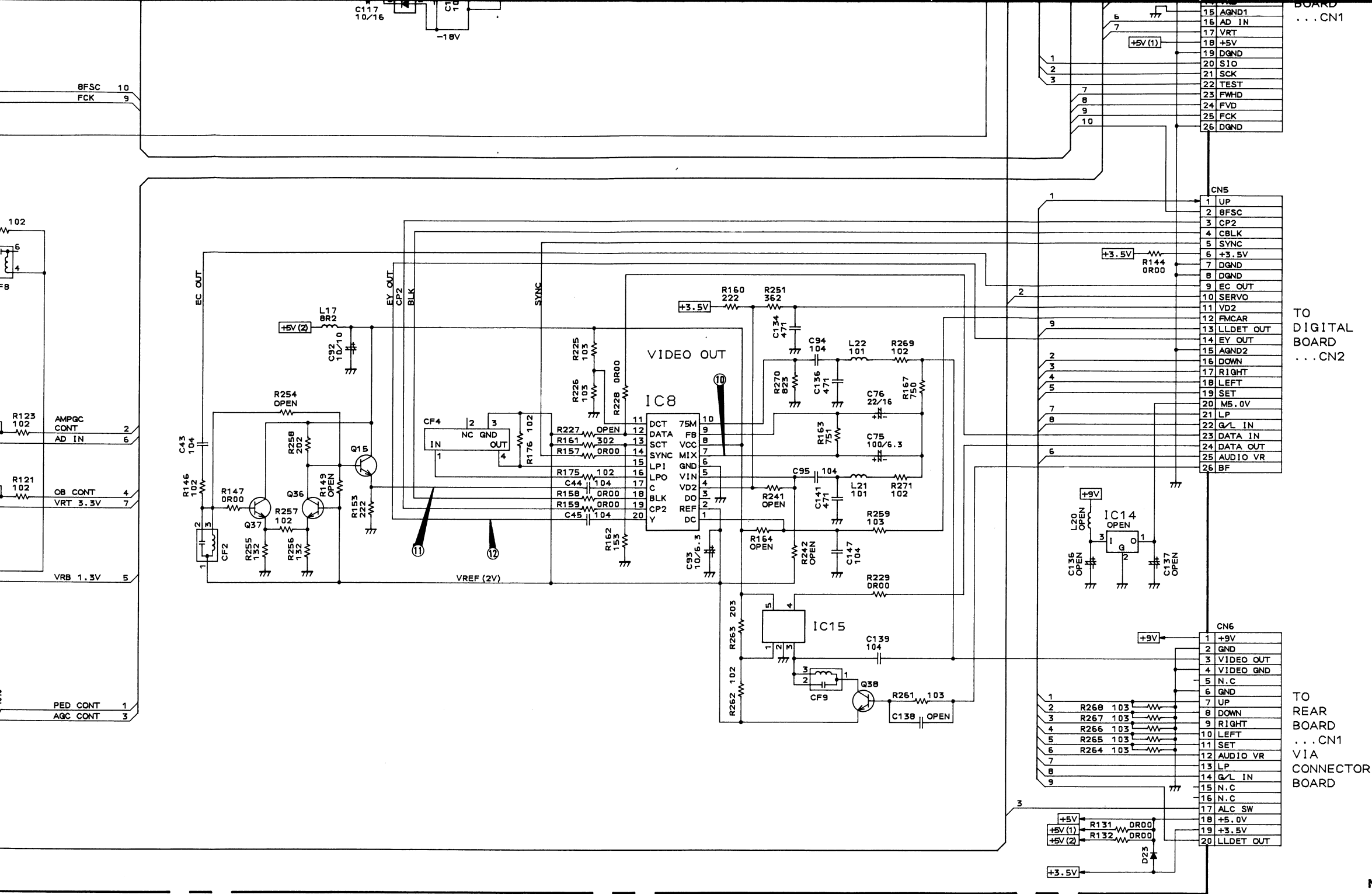
D



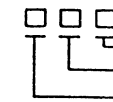
GRAM OF DRIVE BOARD







Note: The value indicated in schematic diagram should be read as follows:



<Example>

For Resistor:

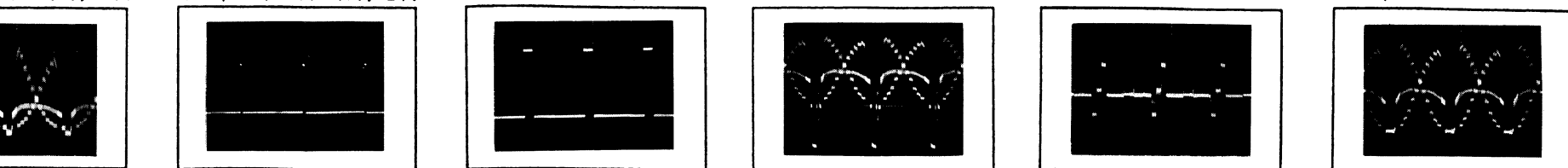
330 $\rightarrow 33 \times 10^0 = 33\Omega$
 561 $\rightarrow 56 \times 10^1 = 560\Omega$
 123 $\rightarrow 12 \times 10^3 = 12k\Omega$
 0R00 $\rightarrow 0\Omega$

For Capacitor:

820 $\rightarrow 82 \times 10^0 = 82pF$
 102 $\rightarrow 10 \times 10^2 = 1000pF = 0.001\mu F$
 104 $\rightarrow 10 \times 10^4 = 100000pF = 0.1\mu F$

The suffix attached to capacitance indicates a type of capacitor.

DIV 0.1V/DIV 8. 20 μ sec/DIV 0.1V/DIV 9. 5msec/DIV 2V/DIV 10. 20 μ sec/DIV 1V/DIV 11. 20 μ sec/DIV 0.1V/DIV 12. 20 μ sec/DIV 0.2V/DIV



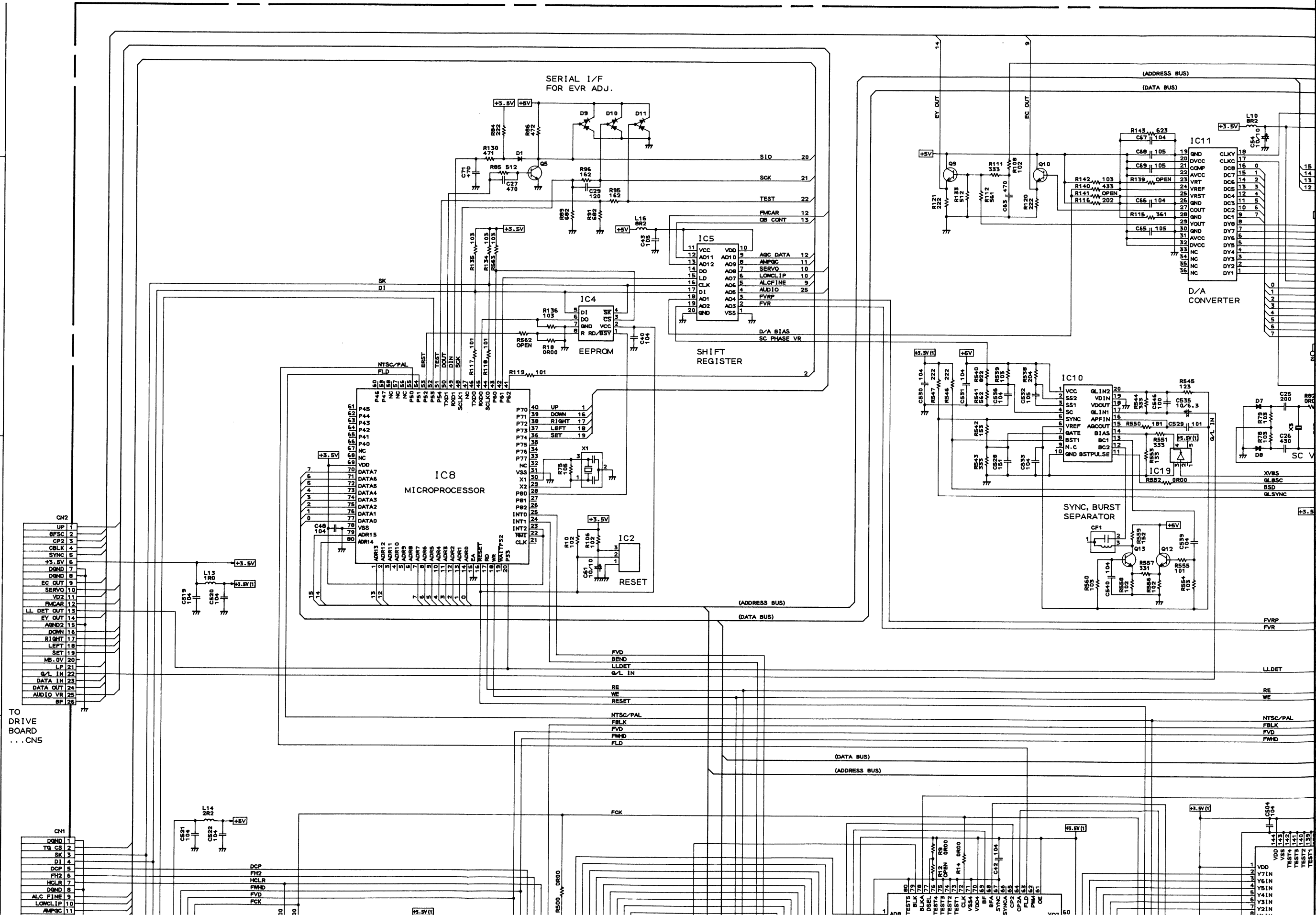
SCHEMATIC DIAGRAM OF DIGITAL BOARD

F

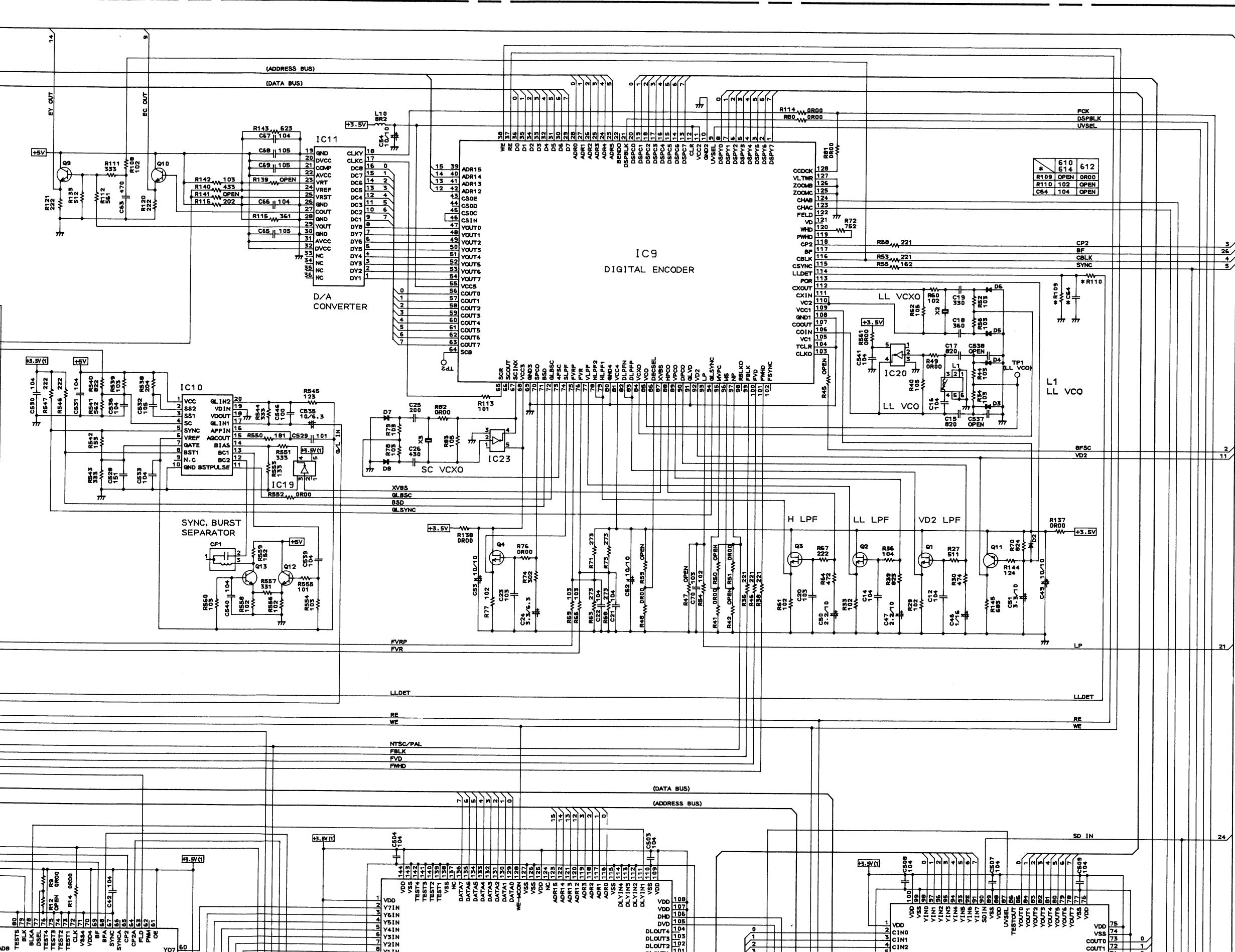
E

D

C



SCHEMATIC DIAGRAM OF DIGITAL BOARD

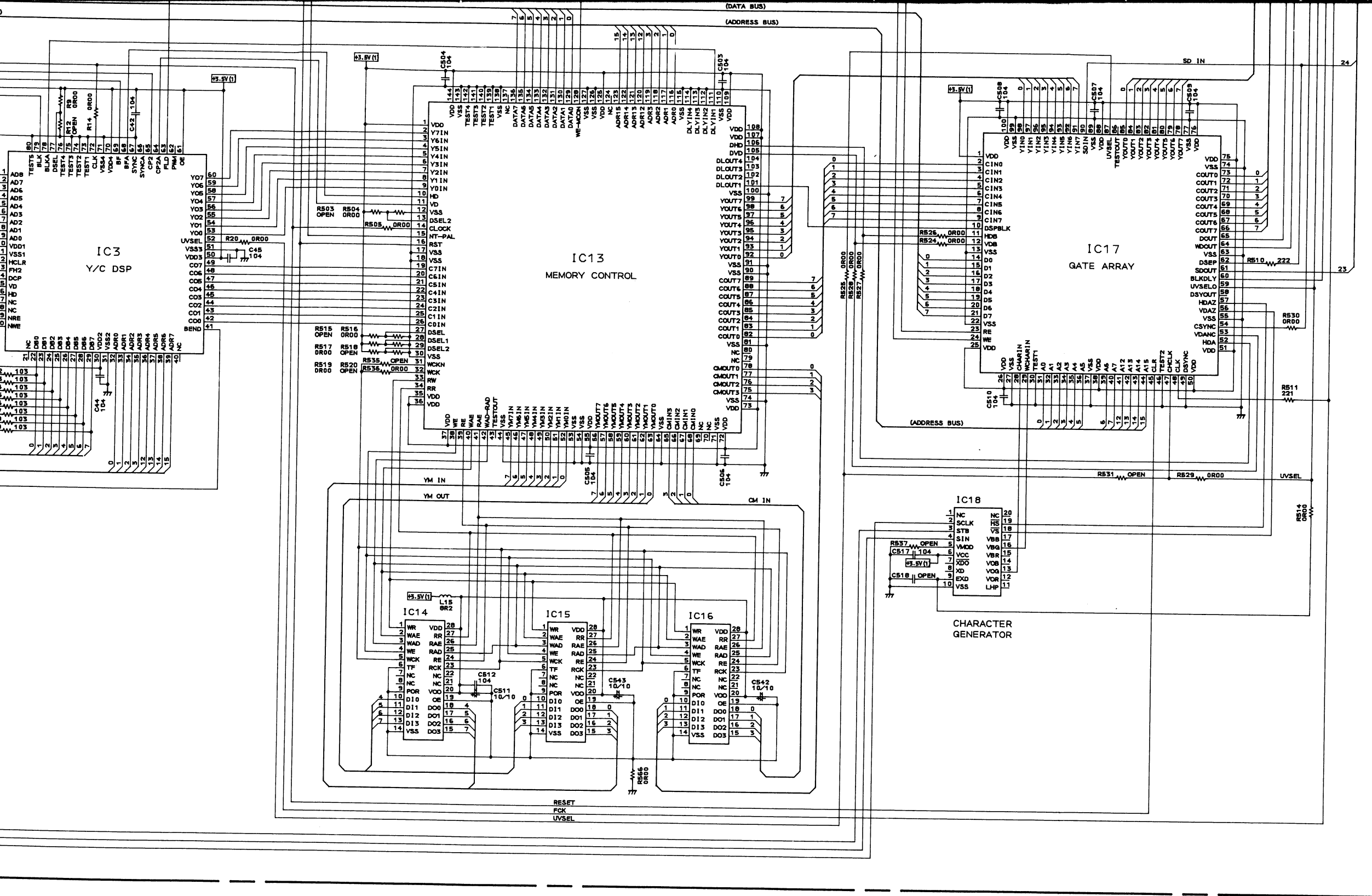


<Index>

DIGITAL BOARD

IC1	B2
IC2	D3
IC3	C4
IC4	E3
IC5	E3
IC8	D2
IC9	E6
IC10	E4
IC11	E5
IC12	B3
IC13	C5
IC14	A5
IC15	A5
IC16	A6
IC17	C7
IC18	B7
IC19	D5
IC20	E7
IC23	E5
Q1	D7
Q2	D7
Q3	D6
Q4	D5
Q5	E2
Q9	E4
Q10	E4
Q11	D7
Q12	D5
Q13	D5
D1	F2
D2	D7
D3	E7
D4	E7
D5	E7
D6	E7
D7	E5
D8	D5
D9	F3
D10	F3
D11	F3





4

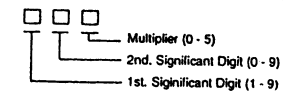
5

6

7

8

Note: The value indicated in schematic diagram should be read as follows:



Multiplier (0 - 5)
2nd. Significant Digit (0 - 9)
1st. Significant Digit (1 - 9)

<Example>

For Resistor:

330 $\rightarrow$ $33 \times 10^0 = 33\Omega$
561 $\rightarrow$ $56 \times 10^1 = 560\Omega$
123 $\rightarrow$ $12 \times 10^3 = 12k\Omega$
0R00 = 0Ω

For Capacitor:

820 $\rightarrow$ $82 \times 10^0 = 82pF$
102 $\rightarrow$ $10 \times 10^2 = 1000pF = 0.001\mu F$
104 $\rightarrow$ $10 \times 10^4 = 100000pF = 0.1\mu F$

The suffix attached to capacitance indicates a type of capacitor.

CONDUCTOR VIEW OF DIGITAL BOARD

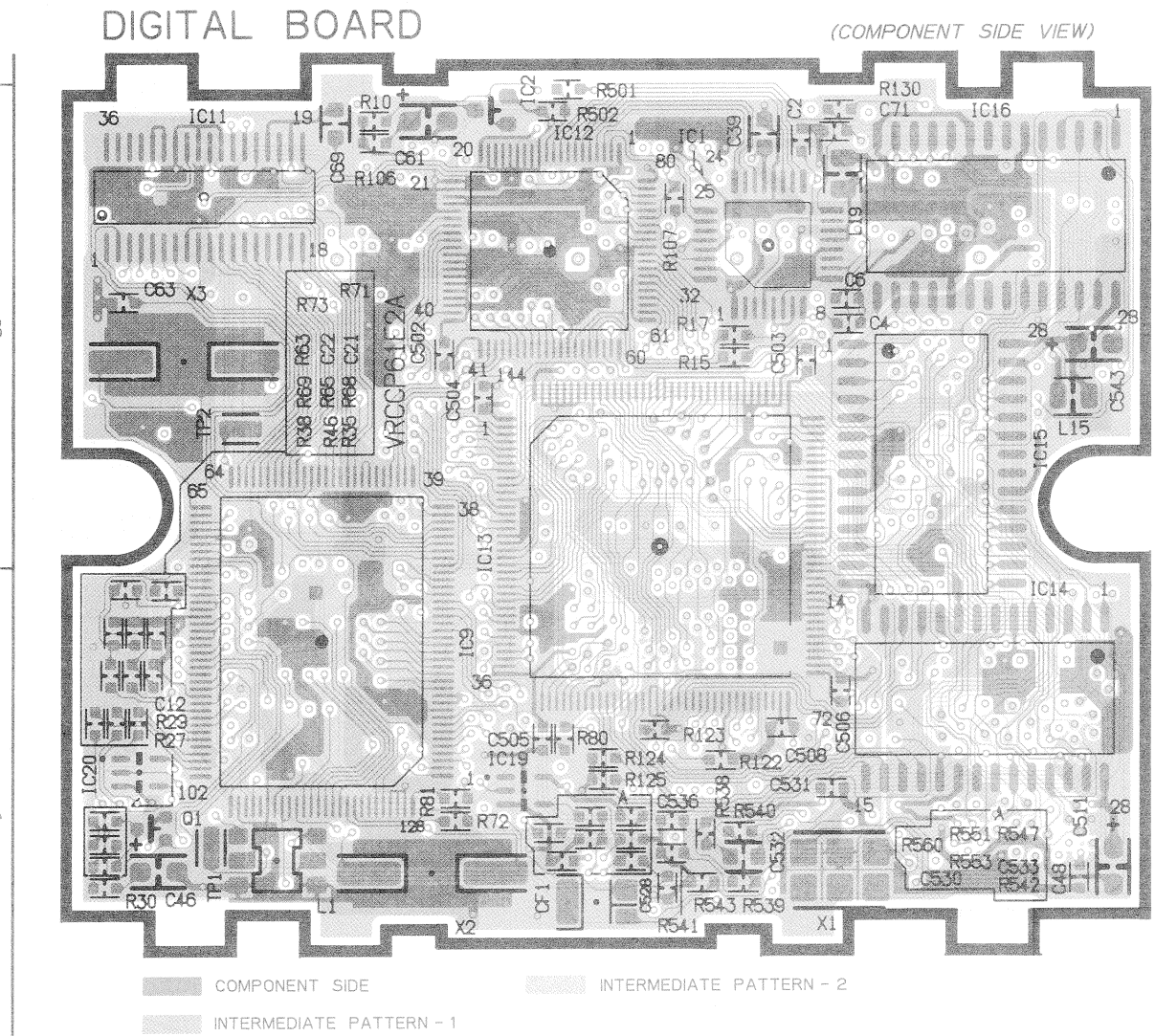
<Voltages>

DIGITAL BOARD

	IC1	IC5	IC10	IC11	IC14	IC15	IC16
Pin1	0	0	4.8	0.6	3.3	3.3	3.3
2	4.8	1.7	2.5	2.0	3.2	3.2	3.2
3	3.4	1.8	1.8	1.0	0	0	0
4	0	0	1.9	1.2	0.7	0.7	0.7
5	4.8	2.7	3.1	1.1	1.6	1.6	1.5
6	2.3	2.5	1.9	1.0	0	0	0
7	4.8	2.7	2.2	1.1	-	-	-
8	1.6	2.9	0.2	1.8	-	-	-
9	0	0.5	-	0.9	0	0	0
10	1.3	4.8	0	0.9	0.5	1.2	1.2
11	0	4.8	0.5	0.9	0.5	1.2	1.1
12	0	2.8	1.3	1.0	0	1.2	1.1
13	4.8	1.3	2.2	0.3	0	2.0	1.0
14	4.8	4.6	0.5	0.2	0	0	0
15	4.7	0	2.0	1.0	0	1.9	1.0
16	1.1	3.4	2.0	1.0	0.4	1.1	1.0
17	1.0	3.3	2.1	1.5	1.4	0.6	1.1
18	1.2	1.3	-	1.6	1.1	0.6	1.0
19	1.1	2.4	0	0	0	0	0
20	0	0	2.0	4.8	3.2	3.2	3.2
21	3.3	-	-	3.5	-	-	-
22	0.9	-	-	4.8	-	-	-
23	2.5	-	-	3.6	1.6	1.6	1.6
24	0.6	-	-	3.7	0.7	0.7	0.7
25	0	-	-	1.1	0	0	0.2
26	0.1	-	-	0	3.2	3.2	3.2
27	0	-	-	4.2	3.3	3.3	3.3
28	0	-	-	0	3.2	3.2	3.2
29	4.8	-	-	3.8	-	-	-
30	1.6	-	-	0	-	-	-
31	0	-	-	4.8	-	-	-
32	0.3	-	-	4.8	-	-	-
33	-	-	-	-	-	-	-
34	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-
36	-	-	-	-	-	-	-

	IC2	IC4	IC19	IC20
Pin1	0	3.4	-	-
2	3.4	3.4	3.4	1.7
3	3.4	3.4	0	0
4	3.4	0	1.7	-
5	3.3	3.3	3.4	-
6	0	-	-	-
7	0	-	-	-
8	0	-	-	-
9	-	-	-	-

	B	C	E
Q1	(G) 0.4	(D) 3.4	(S) 0.8
2	(G) 1.3	(D) 3.4	(S) 1.5
3	(G) 1.4	(D) 3.4	(S) 1.6
4	(G) 0.3	(D) 3.4	(S) 0.7
5	0	4.8	0
9	3.2	4.7	2.5
11	3.1	3.1	3.4
12	1.8	4.8	1.0
13	1.8	3.2	1.0



CONDUCTOR VIEW OF POWER BOARD (WV-CP610)

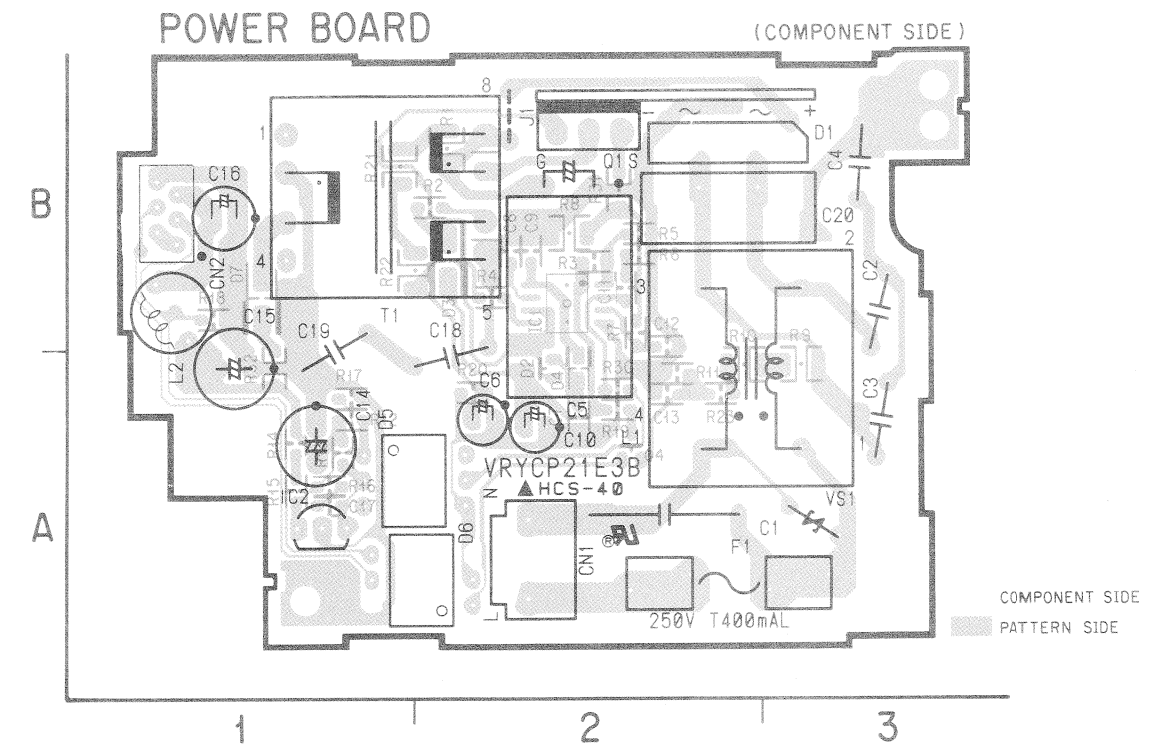


Diagram illustrating the structure of a 3-digit BCD number:

- Multiplier (0 - 5)
- 2nd. Significant Digit (0 - 9)
- 1st. Significant Digit (1 - 9)

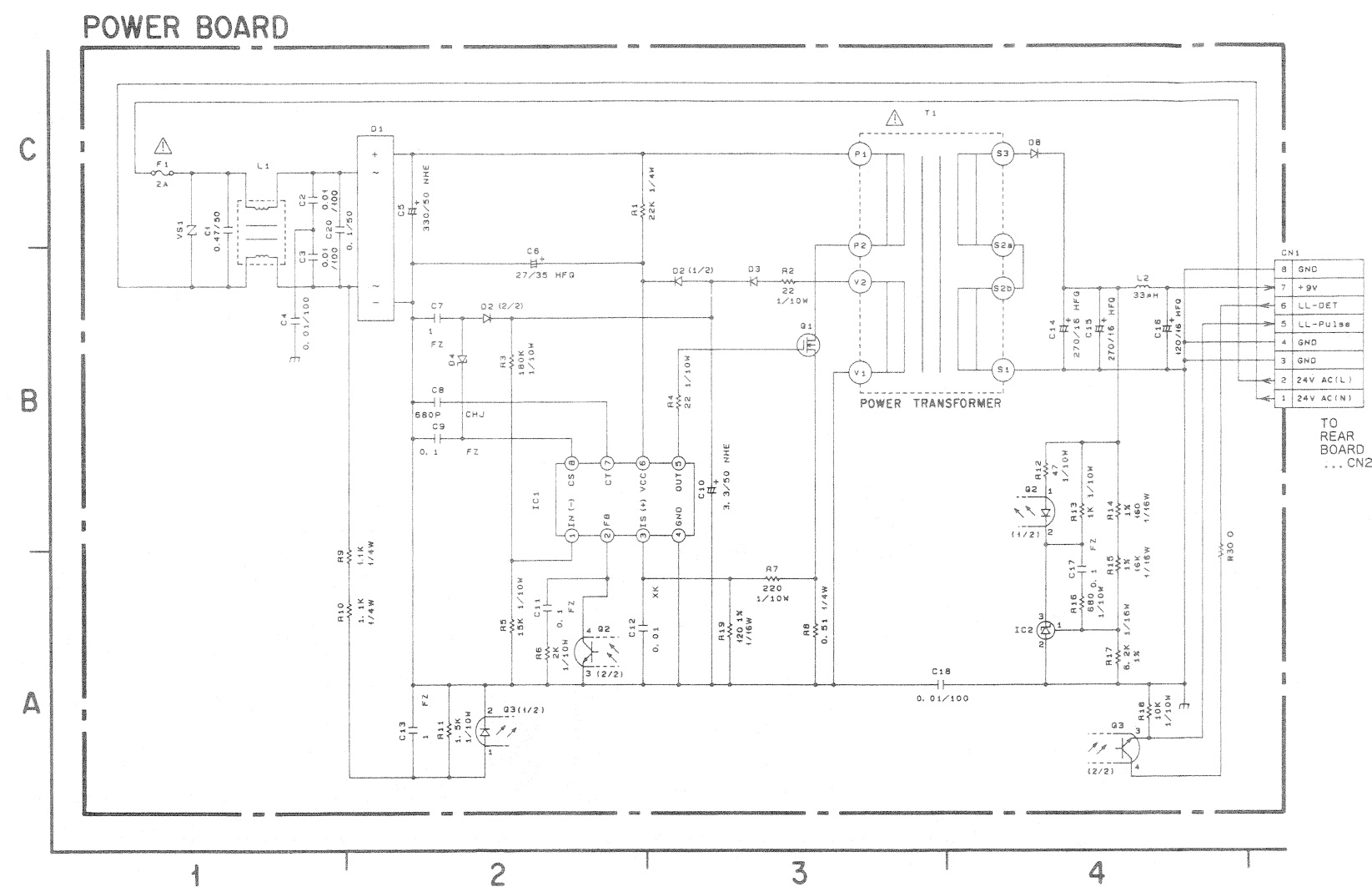
For Resistor:

330	→	33×10^0	=	33Ω
561	→	56×10^1	=	560Ω
123	→	12×10^3	=	12kΩ
0R00			=	0 Ω

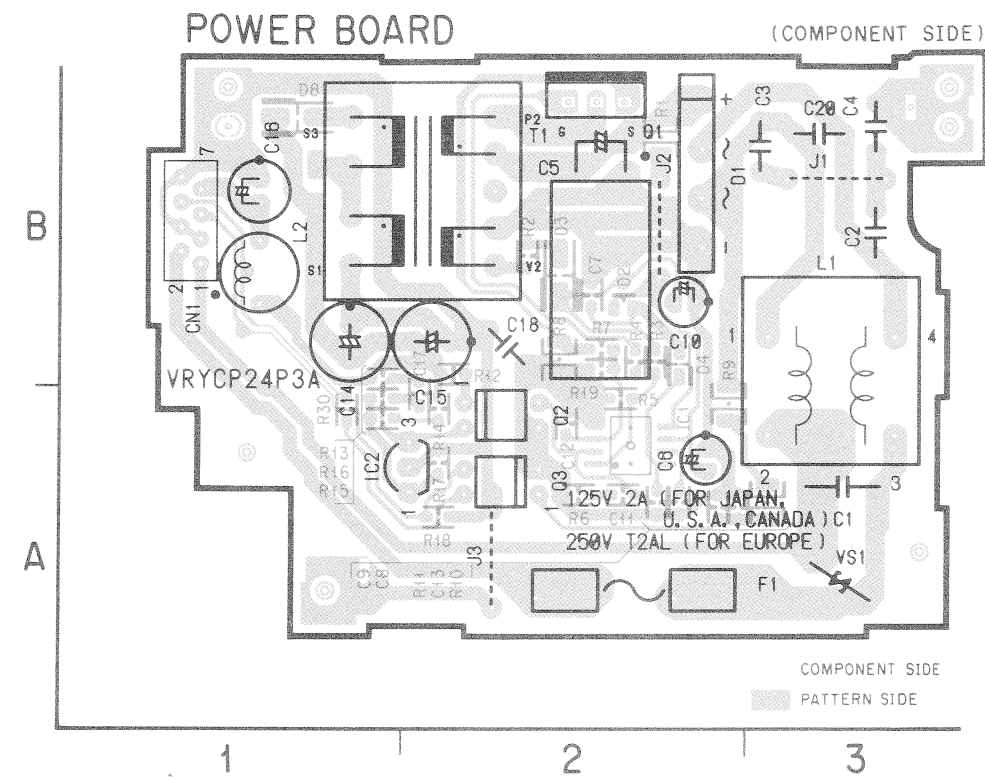
$$\begin{aligned} 820 &\longrightarrow 82 \times 10^0 = 82\text{pF} \\ 102 &\longrightarrow 10 \times 10^2 = 1000\text{pF} = 0.001\mu\text{F} \\ 104 &\longrightarrow 10 \times 10^4 = 100000\text{pF} = 0.1\mu\text{F} \end{aligned}$$

PRODUCT SAFETY NOTICE
COMPONENT IDENTIFIED WITH THE "A" MARK HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN SERVICING ANY OF THESE COMPONENTS, IT IS ESSENTIAL THAT ONLY MANUFACTURER'S SPECIFIED PARTS BE USED.

SCHEMATIC DIAGRAM OF POWER BOARD (WV-CP614)



CONDUCTOR VIEW OF POWER BOARD (WV-CP614)



Note: The value indicated in schematic diagram should be read as follows:

Resistor Value Reading:

- Multiplier (0 - 5)
- 2nd. Significant Digit (0 - 9)
- 1st. Significant Digit (1 - 9)

Example:

For Resistor:

- 330 → 33 × 10⁰ = 33Ω
- 561 → 56 × 10¹ = 560Ω
- 123 → 12 × 10³ = 12kΩ
- 0R00 = 0Ω

For Capacitor:

- 820 → 82 × 10⁰ = 82pF
- 102 → 10 × 10² = 1000pF = 0.001μF
- 104 → 10 × 10⁴ = 100000pF = 0.1μF

The suffix attached to capacitance indicates a type of capacitor.

PRODUCT SAFETY NOTICE

COMPONENT IDENTIFIED WITH THE "A" MARK HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN SERVICING ANY OF THESE COMPONENTS, IT IS ESSENTIAL THAT ONLY MANUFACTURE'S SPECIFIED PARTS BE USED.

< Voltages >

POWER BOARD

	IC1	IC2		Q2	Q3		B	C	E
Pin 1	-0.4	2.4	Pin 1	8.8	-0.8	Q1	(G) -0.7	(D) 19.0	(S) 0.2
2	-0.4	0	2	7.8	-0.8				
3	-9.5	7.8	3	-0.1	0				
4	-9.5		4	-0.4	0				
5	0								
6	1.0								
7	-0.3								
8	0								

CONDUCTOR VIEW OF VP BOARD (WV-CP612)

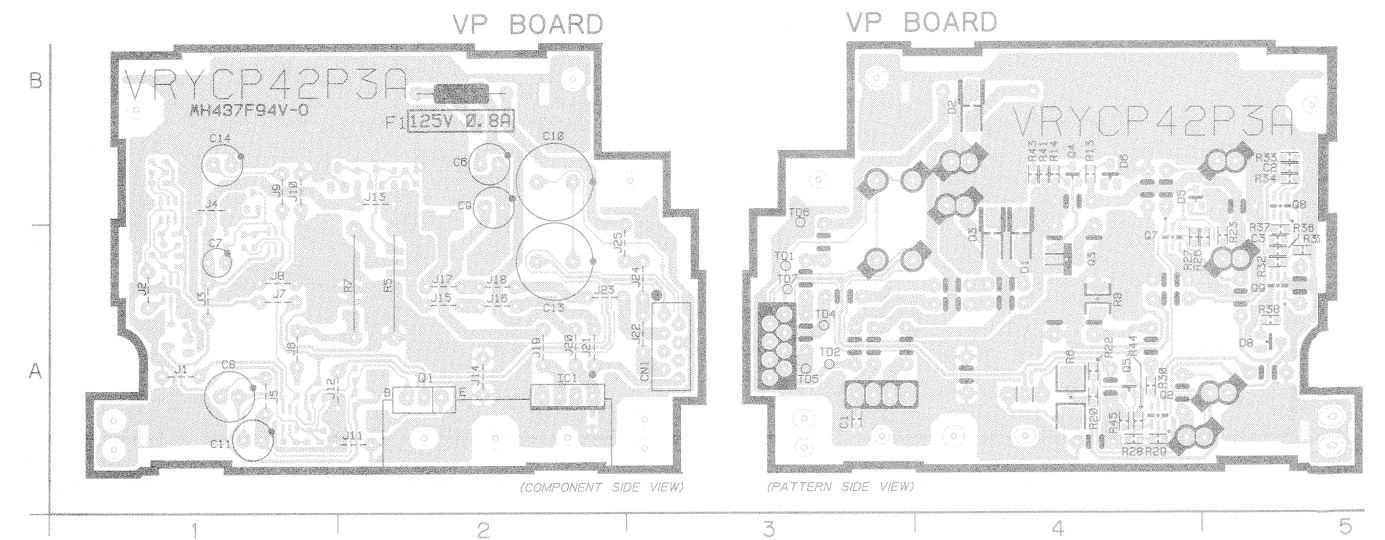


Diagram illustrating the structure of a 3-digit number (represented by three boxes):

- Multiplier (0 - 5)
- 2nd. Significant Digit (0 - 9)
- 1st. Significant Digit (1 - 9)

For Capacitor:

$820 \rightarrow 82 \times 10^0 = 82\text{pF}$

$102 \rightarrow 10 \times 10^2 = 1000\text{pF} = 0.001\mu\text{F}$

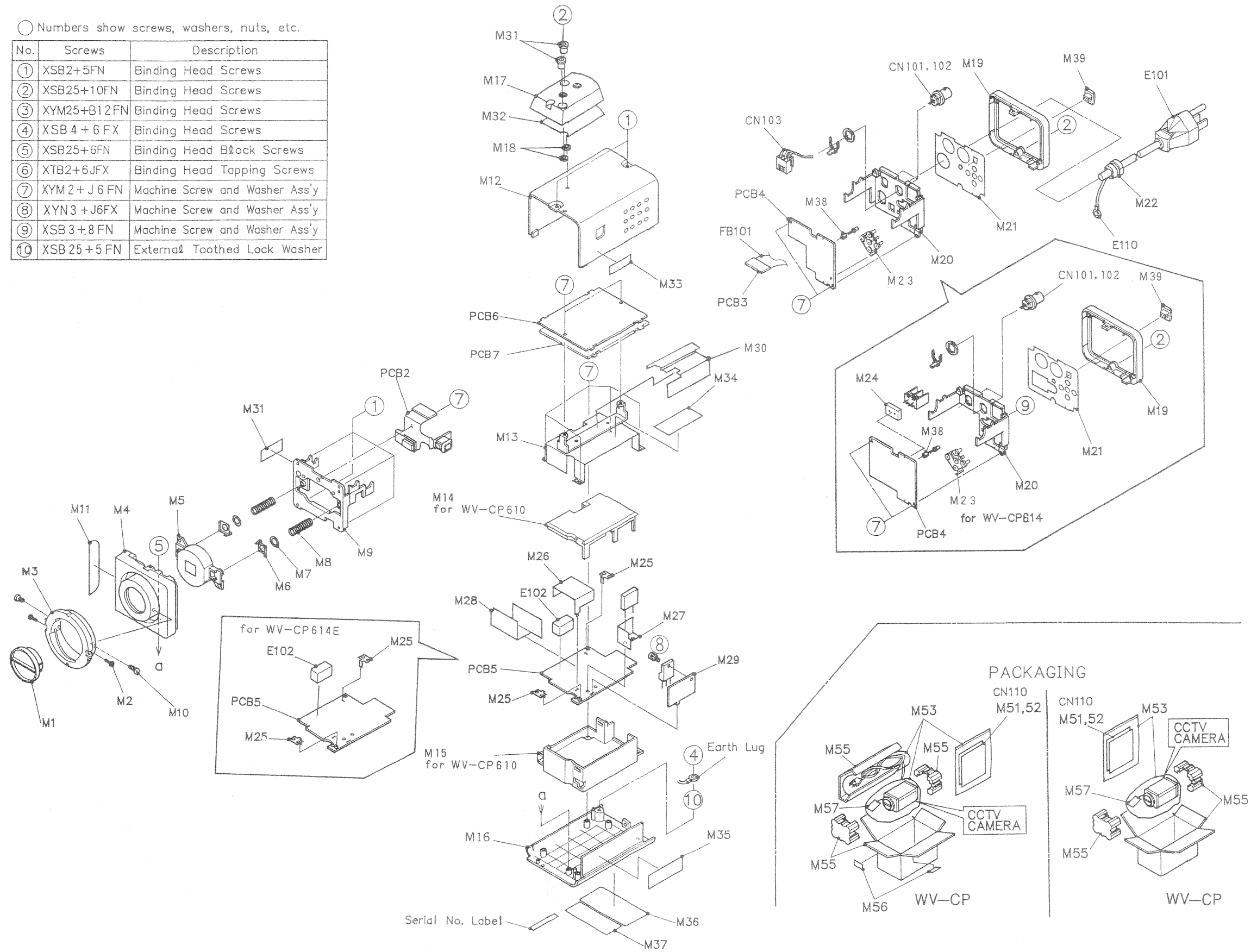
$104 \rightarrow 10 \times 10^4 = 100000\text{pF} = 0.1\mu\text{F}$

The suffix attached to capacitance indicate a type of capacitor.

EXPLODED VIEW for WV-CP610/WV-CP614

○ Numbers show screws, washers, nuts, etc.

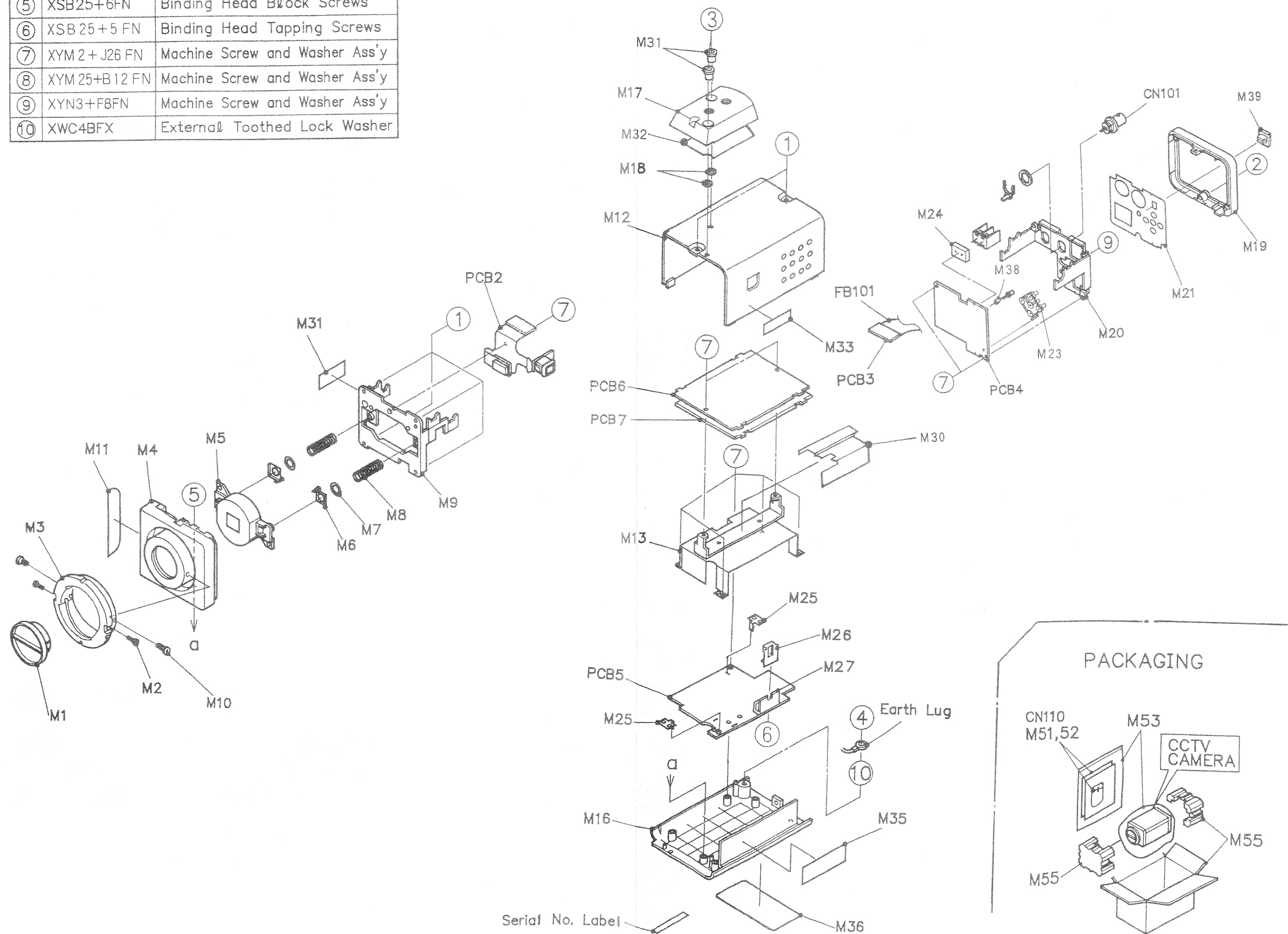
No.	Screws	Description
①	XSB2+5FN	Binding Head Screws
②	XSB25+10FN	Binding Head Screws
③	XYM25+B12FN	Binding Head Screws
④	XSB 4 + 6 FX	Binding Head Screws
⑤	XSB25+6FN	Binding Head Block Screws
⑥	XTB2+6JFX	Binding Head Tapping Screws
⑦	XYM 2 + J 6 FN	Machine Screw and Washer Ass'y
⑧	XYN 3 + J6FX	Machine Screw and Washer Ass'y
⑨	XSB 3 + 8 FN	Machine Screw and Washer Ass'y
⑩	XSB 25 + 5 FN	External Toothed Lock Washer



EXPLODED VIEW for WV-CP612

○ Numbers show screws, washers, nuts, etc.

No.	Screws	Description
①	XSB2+5FN	Binding Head Screws
②	XSB25+10FN	Binding Head Screws
③	XYM25+B12FN	Binding Head Screws
④	XSB4+6FN	Binding Head Screws
⑤	XSB25+6FN	Binding Head Block Screws
⑥	XSB25+5 FN	Binding Head Tapping Screws
⑦	XYM2+J26 FN	Machine Screw and Washer Ass'y
⑧	XYM25+B12 FN	Machine Screw and Washer Ass'y
⑨	XYN3+F8FN	Machine Screw and Washer Ass'y
⑩	XWC4BFX	External Toothed Lock Washer



REPLACEMENT PARTS LIST

Important Notice

- Components identified by "<!">" mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.
- RTL : Retention Time Limited,

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
COLOUR CCTV CAMERA WV-CP610			M36	YWV7QA3485A4 YWV7QA3483A4 YWV7QA3484A4 YWV5GA0171A4	Main Label for WV-CP610/A Main Label for WV-CP610/B Main Label for WV-CP610/G Cap for Switch
MISCELLANEOUS			M39		
FB101	YWCP210J1B	Flexible Board	ALC BOARD		
CN101	YWP2270	BNC Connector	PCB2 (RTL)	YWVKYCP61E5A	Printed Circuit Board Assy
CN102	YWVAR2	2-pin Connector	L1	YWNL251R8J	Coil 1.8 μ H
E101 <!">	YWKP5515XA	Power Cable Assy for WV-CP610/A	L2,3	YWNL252R2J	Coil 2.2 μ H
	YWKP610SXB	Power Cable Assy for WV-CP610/B	L4	YWNL251R8J	Coil 1.8 μ H
			CN1	AXN420330P	20-pin Connector
E102	YWKP4819DSXG	Power Cable Assy for WV-CP610/G	CN2	YFD4151N200	4-pin ALC Connector
M1	YW840522	Insulator Fuse Cover	CN3	YW525881890	18-pin Connector
M2	YWBC-2B	Body Cap	CONNECTOR BOARD		
M3	YWW1EB0127A4	Special Screw	PCB3 (RTL)	YWVKBCP61P4A	Printed Circuit Board Assy
M4	YWW3FA0178A3	FB Control Ring	CN1	YW525882090	20-pin Connector
M5	YWW5BA0128A2	Front Escutcheon	REAR BOARD		
M6	YWWAKA1346AN	Head Optical Assy	PCB4 (RTL)	YWVKCCP61P4A	Printed Circuit Board Assy
M7	YWW4JA0479A4	Spring Plate	IC7	YWM83775PFV	IC
M8	YWW2CA0386A4	Hold Plate for Spring Plate	Q2,3	2SB766A-QR	Transistor
M9	YWW4JA0262A4	Spring	D1,2	YW5C80206L	Diode
M10	YWW2SA2640A3	Mounting Angle	D3	LN28RPPN	LED
M11	YWW1EA0128A4	Special Screw	R1	ERJ3GEYJ751	Carbon 750 ϕ hms 1/16W
M12	YWW5WE1584A4	Panel	R7	ERJ3GEYJ103	Carbon 10K ϕ hms 1/16W
M13	YWW5EA1363A2	Upper Cover	R8	ERJ3GEYJ750	Carbon 75 ϕ hms 1/16W
M14	YWW2HA1168A3	Shield Parts	R134	ERJ3GEYJ333	Carbon 33K ϕ hms 1/16W
M15	YWW6EA0196A3	Shield Cover	R135	ERJ3GEYJ561	Carbon 560 ϕ hms 1/16W
M16	YWW5KA1357A3	Shield Case			
M17	YWW2KA0874A2	Bottom Cover			
M18	YWW2TB0333A3	Mounting Bracket			
M19	YWW1KA0128A4	Washer			
M20	YWW5BA0121A3	Rear Escutcheon			
M21	YWW2SA2641A3	Mounting Angle			
M22	YWW5WA1678A4	Rear Panel			
M23	YWSR6W1	Cord Clamp			
M25	YWW5RA0438A3	Knob for Rear Switch			
M26	YWW1KA0181A4	Washer			
M27	YWW2HA1169A4	Shield Parts			
M28	YWW2PA0612A4	Insulator			
M29	YWW2PA0613A4	Insulator			
M30	YWW7DA0401A4	Heat Sink			
M31	YFV2NA0084A4	Spacer			
M32	YWW2PA0615A4	Insulator			
M33	YWW7SA2096A4	Label			
M35	YWW7MA0412A4	Safety Label			

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
R136	ERJ3GEYJ682	Carbon 6.8K ohms 1/16W	D7	YWSC80209R	Diode
R137	ERJ3GEYJ182	Carbon 1.8K ohms 1/16W	VS1 <!>	ERZC07DK471U	ZNR
R138	ERJ3GEYJ163	Carbon 16K ohms 1/16W	R1	ERJ14YJ114	Carbon 110K ohms 1/4W
R139	ERJ3GEYJ333	Carbon 33K ohms 1/16W	R2	YF2116220JT	Carbon 22 ohms 1/10W
R140	ERJ6GEYJ182	Carbon 1.8K ohms 1/10W	R3	YF2116184JT	Carbon 180K ohms 1/10W
R141	ERJ3GEYJ163	Carbon 16K ohms 1/16W	R4	YF2116220JT	Carbon 22 ohms 1/10W
R142	ERJ3GEYJ561	Carbon 560 ohms 1/16W	R5	YF2116183GT	Carbon 18K ohms 1/10W
R168	ERJ3RHD622V	Metal 6.2K ohms 1/16W	R6	YW2116242JT	Carbon 2.4K ohms 1/10W
R169	ERJ3RHD183V	Metal 18K ohms 1/16W	R7	ERJ6GEYJ221	Carbon 220 ohms 1/10W
R170	ERJ3RHD682V	Metal 6.8K ohms 1/16W	R8	ERJ14YJ2R0	Carbon 2 ohms 1/4W
R171	ERJ3RHD392V	Metal 3.9K ohms 1/16W	R9,10	ERJ14YJ913	Carbon 91K ohms 1/4W
R184	ERJ6GEYJ112	Carbon 1.1K ohms 1/10W	R11	YF2116392JT	Carbon 3.9K ohms 1/10W
C1	YW5F104Z2VB	Ceramic 0.1 μ F	R12	ERJ6GEYJ221	Carbon 220 ohms 1/10W
C37	YW5CH331J5VB	Ceramic 330 pF	R13	ERJ6GEYJ102	Carbon 1K ohms 1/10W
C38	TAJA105M016	Electrolytic 1 μ F 16V	R14	YWR1220P161D	Metal 160 ohms
C39,40	YW5F104Z2VB	Ceramic 0.1 μ F	R15	YWR1220P163D	Metal 16K ohms
C41	TAJA105M016	Electrolytic 1 μ F 16V	R16	YF2116681JT	Carbon 680 ohms 1/10W
C42	YW5X103K5VB	Ceramic 0.01 μ F	R17	YWR1220P622D	Metal 6.2K ohms
C68	ECST0JY475	Electrolytic 4.7 μ F 6.3V	R18	ERJ6GEYJ103	Carbon 10K ohms 1/10W
C69	ECGC0JB330R	Semiconductor Capait	R19	ERJ6GEYJ512	Carbon 5.1K ohms 1/10W
C70	ECGC1BA4R7R	Semiconductor Capaital	R20	YF2116124GT	Carbon 120K ohms 1/10W
C71	ECST0JY685	Electrolytic	R21,22	ERJ14YJ114	Carbon 110K ohms
C72	ECGC0JB330R	Semiconductor Capaital	R23	ERJ6GEYJ363	Carbon 36K ohms 1/10W
C97	YW5F104Z2VB	Ceramic 0.1 μ F	R30	ERJ6GEY0R00	Carbon 0 ohms 1/10W
L3,4	YWCDR63220MC	Coil	R31,32	ERJ8GCS0R00	Carbon 0 ohms 1/8W
L16	YWCDR63220MC	Coil	C1	ECQU2A333MV	Plastic 0.033 μ F
SW1-5	EVQPJX05M	Push Switch	C2-4	ECKDRS222ME	Ceramic 2200 pF
SW6	YWKSD025	Slide Switch	C5	RJ3400V100M	Electrolytic 10 μ F 40V
CN2	YW533910690	Connector	C6	ECA1VFQ270	Electrolytic 27 μ F 35V
M38	YWLH53	LED Spacer	C7	YW400105FZ	Ceramic 1 μ F
POWER BOARD			C8	YF400681CHJT	Ceramic 680 μ F 50V
PCB5 (RTL)	YWVKYBP11E3A	Printed Circuit Board Assy	C9	YF400104FZT	Ceramic 0.1 μ F
IC1	YWFA5304S	IC	C10	ECEA1HGE3R3	Electrolytic 3.3 μ F 50V
IC2	YWTA76431S	IC	C11	YF400103XKT	Ceramic 0.01 μ F
Q1	25K154801M	FET	C12	YF400822XKT	Ceramic 8200 pF
Q4	25C2412-QRS	Transistor	C13	YF400104FZT	Ceramic 0.1 μ F
D1 <!>	S1VB60	Diode	C14,15	ECA1CFQ271	Electrolytic 270 μ F 16V
D2	YWDAN217	Diode	C16	ECA1CFQ121	Electrolytic 120 μ F 16V
D3	YWSC2012	Diode	C17	YF400104FZT	Ceramic 0.1 μ F
D4	YWDTZ5.1	Diode	C18,19	ECKDRS332ME	Ceramic 3300 pF
D5,6	YWPC111LY	Diode	C20	ECQU2A563MT	Plastic 0.056 μ F
			L1	ELF23F215A	Coil
			L2	YWPC7330K	Coil 33 μ H
			T1 <!>	YWPC19HWA9	Power Transformer
			CN1	YWB2P3VH	2-pin Connector
			CN2	YW526630610	6-pin Connector
			F1 <!>	XBA2C04ET0A	Current Fuse 0.4A $\geq$ 50V
			E1,2	S-N5057	Fuse Holder
			E3,4	YW851040	Insulator Cap
			E5	YWTC200T2X4	Insulator Sheet A
			E6	YWTC500T2X2	Insulator Sheet B

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
DRIVE BOARD			R63	ERJ3GEY0R00	Carbon 0 ohms 1/16W
PCB6 (RTL)	YWVKBCP61E2A	Printed Circuit Board Assy	R64	ERJ3GEYJ103	Carbon 10K ohms 1/16W
IC1	AN20185	IC	R66	ERJ3GEYJ102	Carbon 1K ohms 1/16W
IC2	YWTC74AT04F	IC	R68	ERJ3GEYJ103	Carbon 10K ohms 1/16W
IC3	YWC5023068E1	IC	R69	ERJ3GEYJ105	Carbon 1M ohms 1/16W
IC4	YWCXD2404R	IC	R72	YF2116222GT	Carbon 2.2K ohms 1/10W
IC6	AN2034FAP	IC	R73	ERJ3GEYJ101	Carbon 100 ohms 1/16W
IC8	YWC5020074E1	IC	R75,80	ERJ3GEYJ102	Carbon 1K ohms 1/16W
IC10	MN3112SA	IC	R81	ERJ3GEYJ221	Carbon 220 ohms 1/16W
IC13	YWTC74VC04FS	IC	R90	ERJ3GEYJ202	Carbon 2K ohms 1/16W
IC15	YWNJM2406F	IC	R93	ERJ3GEYJ472	Carbon 4.7K ohms 1/16W
Q1	2SK106945	FET	R97	ERJ3GEY0R00	Carbon 0 ohms 1/16W
Q9,15	2SC4617	Transistor	R99	ERJ3GEYJ101	Carbon 100 ohms 1/16W
Q17,18	2SB1218A-QR	Transistor	R100,107	ERJ3GEY0R00	Carbon 0 ohms 1/16W
Q19	2SA1774	Transistor	R110	ERJ3GEY0R00	Carbon 0 ohms 1/16W
Q22	2SC4617	Transistor	R121,123	ERJ3GEYJ102	Carbon 1K ohms 1/16W
Q23	UMZ1	Transistor	R129,131	ERJ3GEY0R00	Carbon 0 ohms 1/16W
Q24	2SA1774	Transistor	R132,144	ERJ3GEY0R00	Carbon 0 ohms 1/16W
Q26,27	2SC4617	Transistor	R145	ERJ3GEY0R00	Carbon 0 ohms 1/16W
Q28	2SA1774	Transistor	R146	ERJ3GEYJ102	Carbon 1K ohms 1/16W
Q29	2SD1819-QRS	Transistor	R147	ERJ3GEY0R00	Carbon 0 ohms 1/16W
Q30	2SC4617	Transistor	R153	ERJ3GEYJ222	Carbon 2.2K ohms 1/16W
Q33,34	2SC4619	Transistor	R157-159	ERJ3GEY0R00	Carbon 0 ohms 1/16W
Q35	2SC4617	Transistor	R160	ERJ3GEYJ222	Carbon 2.2K ohms 1/16W
Q36,37	2SC4619	Transistor	R161	ERJ3GEYJ302	Carbon 3K ohms 1/16W
Q38	2SC4617	Transistor	R162	ERJ3GEYJ153	Carbon 15K ohms 1/16W
D3	YWDA121	Diode	R163	ERJ3GEYJ751	Carbon 750 ohms 1/16W
D10,11	YWHVU359TRF	Diode	R167	ERJ14YJ750	Carbon 75 ohms 1/4W
D14,15	YWDA121	Diode	R175,176	ERJ3RHD102V	Metal 1K ohms 1/16W
D16-19	MA726	Diode	R183	ERJ3GEYJ102	Carbon 1K ohms 1/16W
D20	MA8091M	Diode	R186-188	ERJ3GEYJ100	Carbon 10 ohms 1/16W
D23	MA112	Diode	R189	ERJ3GEYJ821	Carbon 820 ohms 1/16W
TH252	L311F202J402	Thermistor	R190,191	ERJ3GEYJ102	Carbon 1K ohms 1/16W
R14	ERJ3GEY0R00	Carbon 0 ohms 1/16W	R196	ERJ3GEY0R00	Carbon 0 ohms 1/16W
R20	ERJ3GEYJ102	Carbon 1K ohms 1/16W	R197	ERJ3GEYJ162	Carbon 1.6K ohms 1/16W
R21	ERJ3GEYJ202	Carbon 2K ohms 1/16W	R198	ERJ3GEYJ102	Carbon 1K ohms 1/16W
R26	ERJ3GEYJ102	Carbon 1K ohms 1/16W	R201	ERJ3GEY0R00	Carbon 0 ohms 1/16W
R28	ERJ3GEYJ104	Carbon 100K ohms 1/16W	R202	ERJ3GEYJ432	Carbon 4.3K ohms 1/16W
R29	ERJ3GEYJ432	Carbon 4.3K ohms 1/16W	R203	ERJ3GEYJ221	Carbon 220 ohms 1/16W
R31	ERJ3GEYJ153	Carbon 15K ohms 1/16W	R204,205	ERJ3GEYJ102	Carbon 1K ohms 1/16W
R32	ERJ3GEYJ103	Carbon 10K ohms 1/16W	R206	ERJ3GEYJ104	Carbon 100K ohms 1/16W
R33	ERJ3GEYJ154	Carbon 150K ohms 1/16W	R207	ERJ3GEY0R00	Carbon 0 ohms 1/16W
R34,35	ERJ3GEYJ104	Carbon 100K ohms 1/16W	R209	ERJ3GEYJ163	Carbon 16K ohms 1/16W
R36,37	ERJ3GEYJ560	Carbon 56 ohms 1/16W	R210	ERJ3GEYJ473	Carbon 47K ohms 1/16W
R38,41	ERJ3GEY0R00	Carbon 0 ohms 1/16W	R211	ERJ3GEYJ104	Carbon 100K ohms 1/16W
R44,46	ERJ3GEY0R00	Carbon 0 ohms 1/16W	R212	ERJ3GEYJ221	Carbon 220 ohms 1/16W
R47	ERJ3GEYJ151	Carbon 150 ohms 1/16W	R213-216	ERJ3GEYJ220	Carbon 22 ohms 1/16W
R52	ERJ3GEYJ102	Carbon 1K ohms 1/16W	R217	ERJ3GEYJ103	Carbon 10K ohms 1/16W
R54	ERJ3GEY0R00	Carbon 0 ohms 1/16W	R218	ERJ3GEYJ363	Carbon 36K ohms 1/16W
R55	ERJ3GEYJ331	Carbon 330 ohms 1/16W	R219	ERJ3GEYJ104	Carbon 100K ohms 1/16W
R56,58	ERJ3GEY0R00	Carbon 0 ohms 1/16W	R220	ERJ3GEYJ101	Carbon 100 ohms 1/16W
R59,60	ERJ3GEYJ562	Carbon 5.6K ohms 1/16W	R221,222	ERJ3GEYJ222	Carbon 2.2K ohms 1/16W
			R223	ERJ3GEYJ101	Carbon 100 ohms 1/16W
			R224	ERJ3GEY0R00	Carbon 0 ohms 1/16W
			R225,226	ERJ3GEYJ103	Carbon 10K ohms 1/16W

REF.NO.	PART NO.	DESCRIPTION		REF.NO.	PART NO.	DESCRIPTION	
R228,229	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C88	TAJA105M016	Tantalum	1 μ F 16V
R238	ERJ3GEYJ561	Carbon	560 ohms 1/16W	C89,90	ECST1AX106ZR	Tantalum	10 μ F 10V
R240	ERJ3GEYJ331	Carbon	330 ohms 1/16W	C92	ECST1AX106ZR	Tantalum	10 μ F 10V
R243	ERJ3GEYJ821	Carbon	820 ohms 1/16W	C93	ECST0JY106ZR	Tantalum	10 μ F 6.3V
R244	ERJ3GEYJ182	Carbon	1.8K ohms 1/16W	C94,95	YW5F104Z2VB	Ceramic	0.1 μ F
R245	ERJ3GEYJ821	Carbon	820 ohms 1/16W	C98,99	YW5X102K5VB	Ceramic	1000 μ F
R246	ERJ3GEYJ302	Carbon	3K ohms 1/16W	C101,102	YF400104FZT	Ceramic	0.1 μ F
R247	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W	C109	YW5F104Z2VB	Ceramic	0.1 μ F
R248,249	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W	C110	YWE212F105ZT	Ceramic	1 μ F
R251	ERJ3GEYJ362	Carbon	3.6K ohms 1/16W	C111	ECGC1CB4R7R	Semiconductor	4.7 μ F 16V
R253	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C112	ECST1VY224Z	Tantalum	0.22 μ F 35V
R255,256	ERJ3GEYJ132	Carbon	1.3K ohms 1/16W	C113	ECST1VY104	Tantalum	0.1 μ F 35V
R257	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C114,115	ECEV1CV100	Electrolytic	10 μ F 16V
R258	ERJ3GEYJ202	Carbon	2K ohms 1/16W	C116,117	ECEV1CG100GR	Electrolytic	10 μ F 16V
R259	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C119	ECEV1CV100	Electrolytic	10 μ F 16V
R260	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C120,121	ECEV1CG100GR	Electrolytic	1 μ F 16V
R261	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C124	ECEV1VG220GP	Electrolytic	22 μ F 35V
R262	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C125	ECEV1CG220GP	Electrolytic	22 μ F 16V
R263	ERJ3GEYJ203	Carbon	20K ohms 1/16W	C126	YW5F104Z2VB	Ceramic	0.1 μ F
R264-268	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C127	YWE212F105ZT	Ceramic	1 μ F
R269	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C128	TAJA105M016	Electrolytic	1 μ F 16V
R270	ERJ3GEYJ823	Carbon	82K ohms 1/16W	C129	YWE212F105ZT	Ceramic	1 μ F
R271	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C130	YW5F104Z2VB	Ceramic	0.1 μ F
R272,273	ERJ3GEYJ100	Carbon	10 ohms 1/16W	C131	ECST1AX106ZR	Tantalum	10 μ F 10V
R274	ERJ6GEY0R00	Carbon	1 ohms 1/10W	C132	YW5CH471J5VB	Ceramic	470 pF
C3	YW5X103K5VB	Ceramic	0.01 μ F	C133	ECEV1CG100GR	Electrolytic	10 μ F 16V
C6	YW5X102K5VB	Ceramic	1000 μ F	C134	YW5CH471J5VB	Ceramic	470 pF
C7,8	YW5F104Z2VB	Ceramic	0.1 μ F	C135	YWE212F105ZT	Ceramic	1 μ F
C9	YW5F473Z2VB	Ceramic	0.047 μ F	C139	YW5F104Z2VB	Ceramic	0.1 μ F
C10	YWE212F105ZT	Ceramic	1 μ F	C140,141	YW5X471K5VB	Ceramic	470 μ F
C11	YW5X222K5VB	Ceramic	2200 μ F	C142-144	YW5F104Z2VB	Ceramic	0.1 μ F
C15	YW5CH101J5VB	Ceramic	100 μ F	C145,146	YW5CH510J5VB	Ceramic	51 μ F
C16	YW5CH201J5VB	Ceramic	200 μ F	C147	YW5F104Z2VB	Ceramic	0.1 μ F
C17	YW5X103K5VB	Ceramic	0.01 μ F	L1	EIC4EJ011E	Coil	
C18	YW5F104Z2VB	Ceramic	0.1 μ F	L8	ELJSC330KB	Coil	33 μ H
C19	YW5CH201J5VB	Ceramic	200 μ F	L9-11	ELJFC8R2MF	Coil	8.2 μ H
C20-22	YW5F104Z2VB	Ceramic	0.1 μ F	L13	ELJFC8R2MF	Coil	8.2 μ H
C23	YW5X103K5VB	Ceramic	0.01 μ F	L14	ELJSC330KB	Coil	33 μ H
C25	TAJA105M016	Tantalum	1 μ F 16V	L17,19	ELJFC8R2MF	Coil	8.2 μ H
C27	YW5CH180J5VB	Ceramic	18 μ F	L21,22	ELJSC101KB	Coil	100 μ H
C28	YW5F104Z2VB	Ceramic	0.1 μ F	L23	ELJFB101KB	Coil	100 μ H
C29	YF400104FZT	Ceramic	0.1 μ F	CF1	YW4F57374	Filter	8.2 μ H
C43	YW5F104Z2VB	Ceramic	0.1 μ F	CF2	YWNL4532S4R4	Filter	
C44,45	YF400104FZT	Ceramic	0.1 μ F	CF4	ELB4B532	Filter	
C49	ECEV1CG220GP	Electrolytic	22 μ F 16V	CF5,6	YWH50ACB20T	Filter	
C50	YWE212F105ZT	Ceramic	1 μ F	CF7	NFM41R00C221	Filter	
C51	ECST1AY225ZR	Tantalum	2.2 μ F 10V	CF8	EIK4EW020T	Filter	
C61	ECEV1HG3R3	Electrolysis	3.3 μ F 50V	CF9	YWNL4532S4R4	Filter	
C75	ECEV0JG101GP	Electrolytic	100 μ F 6.3V	CN1	YW533071891	18-pin Connector	
C76	ECEV1CG220GP	Electrolytic	22 μ F 16V	CN2,3	YW31756316	6-pin Connector	
C78	YF400332XKT	Ceramic	3300 pF	CN4,5	YW21775946	26-pin Connector	
C80	ECST1AD476ZR	Tantalum	47 μ F 10V	CN6	YW533072091	20-pin Connector	
C81,82	ECST1AX106ZR	Tantalum	10 μ F 10V				
C84	YWE212F105ZT	Ceramic	1 μ F				
C85,87	ECST1AD476ZR	Tantalum	47 μ F 10V				

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
DIGITAL BOARD					
PCB7 (RTL)	YWVKCCP61E2A	Printed Circuit Board Assy	R55	ERJ3GEYJ162	Carbon 1.6K ohms 1/16W
IC1	MN6576	IC	R56	ERJ3GEYJ103	Carbon 10K ohms 1/16W
IC2	MN13821	IC	R58	ERJ3GEYJ221	Carbon 220 ohms 1/16W
IC3	MN673211M2U	IC	R60,61	ERJ3GEYJ102	Carbon 1K ohms 1/16W
IC4	YWBR9020FE1	IC	R62	ERJ3GEYJ105	Carbon 1M ohms 1/16W
IC5	YWMB88346BEF	IC			
IC8	YWTMP90C3427	IC	R63	ERJ3GEYJ273	Carbon 27K ohms 1/16W
IC9	YWCFA5107PGJ	IC	R64	ERJ3GEYJ472	Carbon 4.7K ohms 1/16W
IC10	YWAMSY10G	IC	R65	ERJ3GEYJ103	Carbon 10K ohms 1/16W
IC11	YWUPC664GS	IC	R67	ERJ3GEYJ222	Carbon 2.2K ohms 1/16W
IC12	YWM60071FP	IC	R68	ERJ3GEYJ273	Carbon 27K ohms 1/16W
IC13	YWL7A1220	IC			
IC14-16	MN47925	IC	R69	ERJ3GEYJ103	Carbon 10K ohms 1/16W
IC17	YWL7A1219	IC	R70	ERJ3GEYJ824	Carbon 820K ohms 1/16W
IC18	MB90077PF104	IC	R71	ERJ3GEYJ273	Carbon 27K ohms 1/16W
IC19	YWTC4569F	IC	R72	ERJ3GEYJ752	Carbon 7.5K ohms 1/16W
IC20	YWTC75U04FL	IC	R73	ERJ3GEYJ273	Carbon 27K ohms 1/16W
IC23	YWTC75U04FUL	IC			
Q1-4	25K106945	FET	R74	ERJ3GEYJ302	Carbon 3K ohms 1/16W
Q5	25C4617	Transistor	R75	ERJ3GEYJ105	Carbon 1M ohms 1/16W
Q9,10	25C4619	Transistor	R76	ERJ3GEY0R00	Carbon 0 ohms 1/16W
Q11	25A1774	Transistor	R77	ERJ3GEYJ102	Carbon 1K ohms 1/16W
Q12,13	25C4619	Transistor	R78,79	ERJ3GEYJ103	Carbon 10K ohms 1/16W
D1	MA729	Diode			
D2	YWDA121	Diode	R80-82	ERJ3GEY0R00	Carbon 0 ohms 1/16W
D3-8	YWHVU359TRF	Diode	R83	ERJ3GEYJ105	Carbon 1M ohms 1/16W
D9-11	YWDA221	Diode	R84	ERJ3GEYJ222	Carbon 2.2K ohms 1/16W
R3,4	ERJ3GEY0R00	Carbon 0 ohms 1/16W	R85	ERJ3GEYJ512	Carbon 5.1K ohms 1/16W
R9	ERJ3GEY0R00	Carbon 0 ohms 1/16W	R86	ERJ3GEYJ472	Carbon 4.7K ohms 1/16W
R10	ERJ3GEYJ102	Carbon 1K ohms 1/16W			
R11,13	ERJ3GEY0R00	Carbon 0 ohms 1/16W	R89,91	ERJ3GEYJ682	Carbon 6.8K ohms 1/16W
R14-18	ERJ3GEY0R00	Carbon 0 ohms 1/16W	R95,96	ERJ3GEYJ162	Carbon 1.6K ohms 1/16W
R20	ERJ3GEY0R00	Carbon 0 ohms 1/16W	R106	ERJ3GEYJ102	Carbon 1K ohms 1/16W
R27	ERJ3GEYJ511	Carbon 510 ohms 1/16W	R107	ERJ3GEY0R00	Carbon 0 ohms 1/16W
R29	ERJ3GEYJ102	Carbon 1K ohms 1/16W	R108,110	ERJ3GEYJ102	Carbon 1K ohms 1/16W
R30	ERJ3GEYJ474	Carbon 470K ohms 1/16W			
R33	ERJ3GEYJ102	Carbon 1K ohms 1/16W	R111	ERJ3GEYJ333	Carbon 33K ohms 1/16W
R34	ERJ3GEYJ103	Carbon 10K ohms 1/16W	R112	ERJ3GEYJ561	Carbon 560 ohms 1/16W
R35	ERJ3GEYJ221	Carbon 220 ohms 1/16W	R113	ERJ3GEYJ101	Carbon 100 ohms 1/16W
R36	ERJ3GEYJ104	Carbon 100K ohms 1/16W	R114	ERJ3GEY0R00	Carbon 0 ohms 1/16W
R38	ERJ3GEYJ221	Carbon 220 ohms 1/16W	R115	ERJ3GEYJ361	Carbon 360 ohms 1/16W
R39	ERJ3GEYJ823	Carbon 82K ohms 1/16W			
R40	ERJ3GEYJ105	Carbon 1M ohms 1/16W	R116	ERJ3GEYJ202	Carbon 2K ohms 1/16W
R41	ERJ3GEY0R00	Carbon 0 ohms 1/16W	R117-119	ERJ3GEYJ101	Carbon 100 ohms 1/16W
R44	ERJ3GEYJ103	Carbon 10K ohms 1/16W	R120,121	ERJ3GEYJ222	Carbon 2.2K ohms 1/16W
R46	ERJ3GEYJ221	Carbon 220 ohms 1/16W	R122-129	ERJ3GEYJ103	Carbon 10K ohms 1/16W
R48,49	ERJ3GEY0R00	Carbon 0 ohms 1/16W	R130	ERJ3GEYJ471	Carbon 470 ohms 1/16W
R51	ERJ3GEY0R00	Carbon 0 ohms 1/16W			
R52	ERJ3GEYJ103	Carbon 10K ohms 1/16W	R133	ERJ3GEYJ512	Carbon 5.1K ohms 1/16W
R53	ERJ3GEYJ221	Carbon 220 ohms 1/16W	R134-136	ERJ3GEYJ103	Carbon 10K ohms 1/16W
R54	ERJ3GEYJ102	Carbon 1K ohms 1/16W	R137,138	ERJ6GEY0R00	Carbon 1 ohms 1/10W
			R140	ERJ3GEYJ433	Carbon 43K ohms 1/16W
			R142	ERJ3GEYJ103	Carbon 10K ohms 1/16W
			R143	ERJ3GEYJ623	Carbon 62K ohms 1/16W
			R144	ERJ3GEYJ124	Carbon 120K ohms 1/16W
			R145	ERJ3GEYJ683	Carbon 68K ohms 1/16W
			R500,502	ERJ3GEY0R00	Carbon 0 ohms 1/16W
			R504,505	ERJ3GEY0R00	Carbon 0 ohms 1/16W
			R510	ERJ3GEYJ222	Carbon 2.2K ohms 1/16W
			R511	ERJ3GEYJ221	Carbon 220 ohms 1/16W
			R514,516	ERJ3GEY0R00	Carbon 0 ohms 1/16W
			R517,519	ERJ3GEY0R00	Carbon 0 ohms 1/16W
			R524-530	ERJ3GEY0R00	Carbon 0 ohms 1/16W

REF.NO.	PART NO.	DESCRIPTION		REF.NO.	PART NO.	DESCRIPTION	
R536	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C66,67	YW5F104Z2VB	Ceramic	0.1 μ F
R538	ERJ3GEYJ204	Carbon	200K ohms 1/16W	C68,69	YWE212F105ZT	Ceramic	1 μ F
R539	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C70	YW5X103K5VB	Ceramic	0.01 μ F
R540	ERJ3GEYJ822	Carbon	8.2K ohms 1/16W	C71	YW5CH470J5VB	Ceramic	47 pF
R541	ERJ3GEYJ562	Carbon	5.6K ohms 1/16W	C500-510	YW5F104Z2VB	Ceramic	0.1 μ F
R542	ERJ3GEYJ153	Carbon	15K ohms 1/16W	C511	ECST1AX106ZR	Tantalum	10 μ F 10V
R543,544	ERJ3GEYJ333	Carbon	33K ohms 1/16W	C512,517	YW5F104Z2VB	Ceramic	0.1 μ F
R545	ERJ3GEYJ123	Carbon	12K ohms 1/16W	C519-522	YW5F104Z2VB	Ceramic	0.1 μ F
R546,547	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W	C528	YW5CH151J5VB	Ceramic	150 pF
R550	ERJ3RHD181V	Metal	180 ohms 1/16W	C529	YW5CH101J5VB	Ceramic	100 pF
R551	ERJ3GEYJ333	Carbon	33K ohms 1/16W	C530,531	YW5F104Z2VB	Ceramic	0.1 μ F
R552	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C532	YWE212F105ZT	Ceramic	1 μ F
R553	ERJ3GEYJ133	Carbon	13K ohms 1/16W	C533	YW5F104Z2VB	Ceramic	0.1 μ F
R554	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C535	ECST0JY106ZR	Tantalum	10 μ F
R555	ERJ3GEYJ101	Carbon	100 ohms 1/16W	C536,539	YW5F104Z2VB	Ceramic	0.1 μ F
R556	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C540,541	YW5F104Z2VB	Ceramic	0.1 μ F
R557	ERJ3GEYJ331	Carbon	330 ohms 1/16W	C542,543	ECST1AX106ZR	Tantalum	10 μ F 10V
R558	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C546	YW5CH100J5VB	Ceramic	10 pF
R559	ERJ3GEYJ152	Carbon	1.5K ohms 1/16W	L1	EIC4EJ012E	Coil	
R560	ERJ3GEYJ103	Carbon	10K ohms 1/16W	L10	ELJFC8R2MF	Coil	8.2 μ H
R561	ERJ6GEY0R00	Carbon	1 ohms 1/10W	L13	ELJFC1R0MF	Coil	1 μ H
R563	ERJ3GEYJ103	Carbon	10K ohms 1/16W	L14	ELJFC2R2MF	Coil	2.2 μ H
R566	ERJ6GEY0R00	Carbon	1 ohms 1/10W	L15	ELJFC8R2MF	Coil	8.2 μ H
C1	ECST1AX106ZR	Tantalum	10 μ F 10V	L16	F2012E8R2KT	Coil	8.2 μ H
C2,4	YW5F104Z2VB	Ceramic	0.1 μ F	L17	ELJFB101KB	Coil	100 μ H
C6,12	YW5F104Z2VB	Ceramic	0.1 μ F	L19	ELJFC8R2MF	Coil	8.2 μ H
C14	YW5F104Z2VB	Ceramic	0.1 μ F	X1	EF0V8004E0A	Crystal Oscillator	
C15	YW5CH820J5VB	Ceramic	82 pF	X2	YWDX14R187	Crystal Oscillator	
C16	YW5F104Z2VB	Ceramic	0.1 μ F	X3	YWDX17R734	Crystal Oscillator	
C17	YW5CH820J5VB	Ceramic	82 pF	CF1	YWNL453254R4	Filter	
C18	YW5CH360J5VB	Ceramic	36 pF	CN1,2	YW51763136	Connector	
C19	YW5CH330J5VB	Ceramic	33 pF	E1	YWL3071A04A5	Internal Wire	
C20	YW5X103K5VB	Ceramic	0.01 μ F	TP1,2	YWRCT2125TPV	Test- Pin	
C21,22	YW5F104Z2VB	Ceramic	0.1 μ F	ACCESSORY PARTS/PACKAGING PARTS			
C23	YW5X103K5VB	Ceramic	0.01 μ F	CN110	YFE4191J100	ALC Lens Connector	
C24	ECST0JY335	Tantalum	3.3 μ F 6.3V	M51	YWV8QA3452AN	Operating Instructions	
C25	YW5CH200J5VB	Ceramic	20 pF	M52	YWT050803	Polyethylene Bag	
C26	YW5CH430J5VB	Ceramic	43 pF	M53	YWT20X35C03	Polyethylene Bag	
C27	YW5CH470J5VB	Ceramic	47 pF	M55	YWV9CA2432AN	Packaging Assy for WV-CP610/A	
C29	YW5CH120J5VB	Ceramic	12 pF		YWV9CA2430AN	Packaging Assy for WV-CP610/B	
C39	YWE212F105ZT	Ceramic	1 μ F		YWV9CA2431AN	Packaging Assy for WV-CP610/G	
C40-42	YW5F104Z2VB	Ceramic	0.1 μ F	M56	YWV8FA0201A4	Packaging Label for WV-CP610/B	
C43	YWE212F105ZT	Ceramic	1 μ F	M57	YWV75A1450A4	Label for WV-CP610/B,G	
C44,45	YW5F104Z2VB	Ceramic	0.1 μ F	EXTENTION BOARD			
C46	TAJA105M016	Tantalum	1 μ F 16V	EXB01	YWV0EA0326AN	Drive/Digital Extention Board	
C47	ECST1AY225ZR	Tantalum	2.2 μ F 10V				
C48	YW5F104Z2VB	Ceramic	0.1 μ F				
C49	ECST1AX106ZR	Tantalum	10 μ F 10V				
C50	ECST1AY225ZR	Tantalum	2.2 μ F 10V				
C51	ECST1AY335ZR	Tantalum	3.3 μ F 10V				
C52-54	ECST1AX106ZR	Tantalum	10 μ F 10V				
C61	ECST1AX106ZR	Tantalum	10 μ F 10V				
C63	YW5CH470J5VB	Ceramic	47 pF				
C64	YW5F104Z2VB	Ceramic	0.1 μ F				
C65	YWE212F105ZT	Ceramic	1 μ F				

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
COLOUR CCTV CAMERA WV-CP612E			ALC BOARD		
MISCELLANEOUS			PCB2 (RTL)	YWVKYCP61E5A	Printed Circuit Board Assy
FB101	YWCP210J1B	Flexible Board	L1	YWNL251R8J	Coil 1.8 μ H
CN101	YWP2270	BNC Connector	L2,3	YWNL252R2J	Coil 2.2 μ H
E102	YW840522	Insulator Fuse Cover	L4	YWNL251R8J	Coil 1.8 μ H
M1	YWBC-2B	Body Cap	CN1	AXN420330P	20-pin Connector
M2	YVV1EB0127A4	Special Screw	CN2	YFD4151N200	4-pin ALC Connector
M3	YVV3FA0178A3	FB Control Ring	CN3	YW525881890	18-pin Connector
M4	YVV5BA0128A2	Front Escutcheon	CONNECTOR BOARD		
M5	YVWAKA1346AN	Head Optical Assy	PCB3 (RTL)	YWVKBCP62P4A	Printed Circuit Board Assy
M6	YVV4JA0479A4	Spring Plate	CN1	YW525882090	20-pin Connector
M7	YVV2CA0386A4	Hold Plate for Spring Plate	REAR BOARD		
M8	YVV4JA0262A4	Spring	PCB4 (RTL)	YWVKCCP62P4A	Printed Circuit Board Assy
M9	YVV2SA2640A3	Mounting Angle	IC7	YWMB3775PFV	IC
M10	YVV1EA0128A4	Special Screw	Q2,3	2SB766A-QR	Transistor
M11	YVV5WE1584A4	Front Panel	D1,2	YWSC80206L	Diode
M12	YVV5EA1363A2	Upper Cover	D3	LN28RPPN	LED
M13	YVV2HA1168A3	Shield Parts	R1	ERJ3GEYJ751	Carbon 750 ohms 1/16W
M16	YVV2KA0874A2	Bottom Cover	R7	ERJ3GEYJ103	Carbon 10K ohms 1/16W
M17	YVV2TB0333A3	Mounting Bracket	R8	ERJ3GEYJ750	Carbon 75 ohms 1/16W
M18	YVV1KA0128A4	Washer	R134	ERJ3GEYJ333	Carbon 33K ohms 1/16W
M19	YVV5BA0121A3	Rear Escutcheon	R135	ERJ3GEYJ561	Carbon 560 ohms 1/16W
M20	YVV2SA2642A3	Mounting Angle	R136	ERJ3GEYJ682	Carbon 6.8K ohms 1/16W
M21	YVV5WA1680A4	Rear Panel	R138	ERJ3GEYJ243	Carbon 24K ohms 1/16W
M23	YVV5RA0438A3	Knob for Rear Switch	R139	ERJ3GEYJ333	Carbon 33K ohms 1/16W
M25	YVV1KA0181A4	Washer	R140	ERJ6GEYJ102	Carbon 1K ohms 1/10W
M26	YVV2CA0390A4	Hold Plate	R141	ERJ3GEYJ333	Carbon 33K ohms 1/16W
M30	YVV7DA0402A4	Heat Sink	R142	ERJ3GEYJ561	Carbon 560 ohms 1/16W
M31	YFV2NA0084A4	Spacer	R168	ERJ3RHD622V	Metal 6.2K ohms 1/16W
M32	YVV2PA0615A4	Insulator Sheet	R169	ERJ3RHD183V	Metal 18K ohms 1/16W
M33	YVV7SA2098A4	Label	R170	ERJ3RHD682V	Metal 6.8K ohms 1/16W
M35	YVV7MA0412A4	Safety Label	R171	ERJ3RHD392V	Metal 3.9K ohms 1/16W
M36	YVV7QA3487A4	Main Label	R184	ERJ6GEYJ102	Carbon 1K ohms 1/10W
M39	YVV5GA0171A4	Cap for Switch	C1	YW5F104Z2VB	Ceramic 0.1 μ F
			C2	YF400222XKT	Ceramic 2200 pF
			C37	YW5CH331J5VB	Ceramic 330 pF
			C38	TAJA105M016	Electrolytic 1 μ F 16V
			C39,40	YW5F104Z2VB	Ceramic 0.1 μ F
			C41	TAJA105M016	Electrolytic 1 μ F 16V
			C42	YW5X103K5VB	Ceramic 0.01 μ F
			C68	ECST0JY475	Electrolytic 4.7 μ F 6.3V
			C69	ECGC0J8330R	Semiconductor 33 μ F 6.3V
			C70	ECGC1BA4R7R	Semiconductor 4.7 μ F

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
C71	ECST0JY685	Tantalum 6.8 μ F 6.3V	Q9,15	2SC4617	Transistor
C72	ECGC0JB330R	Semiconductor 33 μ F 6.3V	Q17,18	2SB1218A-QR	Transistor
C97	YW5F104Z2VB	Ceramic 0.1 μ F	Q19	2SA1774	Transistor
L3,4	YWCDR63220MC	Coil 22 μ H	Q22	2SC4617	Transistor
L16	YWCDR63220MC	Coil 22 μ H	Q23	UMZ1	Transistor
SW1-5	EVQPJX05M	Push Switch	Q24	2SA1774	Transistor
SW6	YWKSD025	Slide Switch	Q26,27	2SC4617	Transistor
CN2	YW533910890	89-pin Connector	Q28	2SA1774	Transistor
E1	YWT6746	Terminal	Q29	2SD1819-QRS	Transistor
M38	YWLH53	Spacer	Q30	2SC4617	Transistor
VP BOARD			Q33,34	2SC4619	Transistor
PCB5 (RTL)	YWVKYCP62P3A	Printed Circuit Board Assy	Q35	2SC4617	Transistor
IC1	AN7809R	IC	Q36,37	2SC4619	Transistor
D2,3	MA736	Diode	Q38	2SC4617	Transistor
R1	ERJ3GEY0R00	Carbon 0 ohms 1/16W	D3	YWDA121	Diode
C1	YW5F104Z2VB	Ceramic 0.1 μ F	D10,11	YWHVU359TRF	Diode
C6,9	ECA1CFQ560	Electrolytic 56 μ F 16V	D14,15	YWDA121	Diode
F1	SSFR800F003	Current Fuse	D16-19	MA726	Diode
E1	YFN074A	Insulator	D20	MA8091M	Diode
CN1	YW526630810	8-pin Connector	D23	MA112	Diode
M25	YVV1KA0181A4	Washer	R252	L311F202J402	Thermistor
M27	YVV7DA0382A4	Heat Sink	R14	ERJ3GEY0R00	Carbon 0 ohms 1/16W
DRIVE BOARD			R20	ERJ3GEYJ102	Carbon 1K ohms 1/16W
PCB6 (RTL)	YWVKBCP62E2A	Printed Circuit Board Assy	R21	ERJ3GEYJ202	Carbon 2K ohms 1/16W
IC1	AN20185	IC	R26	ERJ3GEYJ102	Carbon 1K ohms 1/16W
IC2	YWTC74AT04F	IC	R28	ERJ3GEYJ104	Carbon 100K ohms 1/16W
IC3	YWC5023068E1	IC	R29	ERJ3GEYJ432	Carbon 4.3K ohms 1/16W
IC4	YWCXD2404R	IC	R31	ERJ3GEYJ153	Carbon 15K ohms 1/16W
IC6	AN2034FAP	IC	R32	ERJ3GEYJ103	Carbon 10K ohms 1/16W
IC8	YWC5020074E1	IC	R33	ERJ3GEYJ154	Carbon 150K ohms 1/16W
IC10	MN3112SA	IC	R34,35	ERJ3GEYJ104	Carbon 100K ohms 1/16W
IC13	YWTC74VC04FS	IC	R36,37	ERJ3GEYJ560	Carbon 56 ohms 1/16W
IC15	YWNJM2406F	IC	R38,41	ERJ3GEY0R00	Carbon 0 ohms 1/16W
Q1	2SK106945	FET	R44,46	ERJ3GEY0R00	Carbon 0 ohms 1/16W
			R47	ERJ3GEYJ151	Carbon 150 ohms 1/16W
			R52	ERJ3GEYJ102	Carbon 1K ohms 1/16W
			R54	ERJ3GEY0R00	Carbon 0 ohms 1/16W
			R55	ERJ3GEYJ331	Carbon 330 ohms 1/16W
			R56,58	ERJ3GEY0R00	Carbon 0 ohms 1/16W
			R59,60	ERJ3GEYJ562	Carbon 5.6K ohms 1/16W
			R63	ERJ3GEY0R00	Carbon 0 ohms 1/16W
			R64	ERJ3GEYJ103	Carbon 10K ohms 1/16W
			R66	ERJ3GEYJ102	Carbon 1K ohms 1/16W
			R68	ERJ3GEYJ103	Carbon 10K ohms 1/16W
			R69	ERJ3GEYJ105	Carbon 1M ohms 1/16W
			R72	YF2116222GT	Carbon 2.2K ohms 1/10W
			R73	ERJ3GEYJ101	Carbon 100 ohms 1/16W
			R75,80	ERJ3GEYJ102	Carbon 1K ohms 1/16W
			R81	ERJ3GEYJ221	Carbon 220 ohms 1/16W
			R90	ERJ3GEYJ202	Carbon 2K ohms 1/16W
			R93	ERJ3GEYJ472	Carbon 4.7K ohms 1/16W
			R97	ERJ3GEY0R00	Carbon 0 ohms 1/16W
			R99	ERJ3GEYJ101	Carbon 100 ohms 1/16W
			R100,107	ERJ3GEY0R00	Carbon 0 ohms 1/16W
			R110	ERJ3GEY0R00	Carbon 0 ohms 1/16W

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
C530,531	YW5F104Z2VB	Ceramic 0.1 μ F	COLOUR CCTV CAMERA WV-CP614E		
C532	YWE212F105ZT	Ceramic 1 μ F	MISCELLANEOUS		
C533	YW5F104Z2VB	Ceramic 0.1 μ F	FB101	YWCP210J1B	Flexible Board
C535	ECST0JY106ZR	Tantalum 10 μ F 10V	CN101	YWP2270	BNC Connector
C536,539	YW5F104Z2VB	Ceramic 0.1 μ F	E102	YW840522	Insulator Fuse Cover
C540,541	YW5F104Z2VB	Ceramic 0.1 μ F	M1	YWBC-2B	Body Cap
C542,543	ECST1AX106ZR	Tantalum 10 μ F 10V	M2	YWV1EB0127A4	Special Screw
C546	YW5CH100J5VB	Ceramic 10 pF	M3	YWV3FA0178A3	FB Control Ring
L1	EIC4EJ012E	Coil	M4	YWV5BA0128A2	Front Escutcheon
L10	ELJFC8R2MF	Coil 8.2 μ H	M5	YWVAKA1346AN	Head Optical Assy
L13	ELJFC1R0MF	Coil 1 μ H	M6	YWV4JA0479A4	Spring Plate
L14	ELJFC2R2MF	Coil 2.2 μ H	M7	YWV2CA0386A4	Hold Plate for Spring Plate
L15	ELJFC8R2MF	Coil 8.2 μ H	M8	YWV4JA0262A4	Spring
L16	F2012E8R2KT	Coil 8.2 μ H	M9	YWV2SA2640A3	Mounting Angle
L17	ELJFB101KB	Coil 100 μ H	M10	YWV1EA0128A4	Special Screw
L19	ELJFC8R2MF	Coil 8.2 μ H	M11	YWV5WE1584A4	Front Panel
X1	EF0V8004E0A	Crystal Oscillator	M12	YWV5EA1363A2	Upper Cover
X2	YWDX14R187	Crystal Oscillator	M13	YWV2HA1168A3	Shield Parts
X3	YWDX17R734	Crystal Oscillator	M16	YWV2KA0874A2	Bottom Cover
CF1	YWNL453254R4	Filter	M17	YWV2TB0333A3	Mounting Bracket
CN1,2	YW51763136	Connector	M18	YWV1KA0128A4	Washer
E1	YWL3071A04A5	Internal Wire	M19	YWV5BA0121A3	Rear Escutcheon
E5	YWTC200T2X4	Insulator Sheet A	M20	YWV2SA2642A3	Mounting Angle
E6	YWTC500T2X2	Insulator Sheet B	M21	YWV5WA1679A4	Rear Panel
TP1,2	YWRCT2125TPV	Test -Pin	M23	YWV5RA0438A3	Knob for Rear Switch
ACCESSORY PARTS/PACKAGING PARTS			M25	YWV1KA0181A4	Washer
CN110	YFE4191J100	ALC Connector	M30	YWV7DA0401A4	Heat Sink
M51	YWV8QA3452AN	Operating Instructions	M31	YFV2NA0084A4	Spacer
M52	YWT050803	Polyethylene Bag	M32	YWV2PA0615A4	Insulator Sheet
M53	YWT20X35C03	Polyethylene Bag	M33	YWV7SA2097A4	Label
M55	YWV9CA2434AN	Packaging Assy	M35	YWV7MA0412A4	Safety Label
M57	YWV7SA1450A4	Label	M36	YWV7QA3486A4	Main Label
EXTENTION BOARD			M39	YWV5GA0171A4	Cap for Switch
EXB01	YWV0EA0326AN	Drive/Digital Extention Board			

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
C120,121	ECEV1CG100GR	Electrolytic 10 μ F 16V	IC8	YWTMP90C3427	IC
C124	ECEV1VG220GP	Electrolytic 22 μ F 35V	IC9	YWCF45107PGJ	IC
C125	ECEV1CG220GP	Electrolytic 22 μ F 16V	IC10	YWAMS10G	IC
C126	YW5F104Z2VB	Ceramic 0.1 μ F	IC11	YWUPC664GS	IC
C127	YWE212F105ZT	Ceramic 1 μ F	IC12	YWM60071FP	IC
C128	TAJA105M016	Tantalum 1 μ F 16V	IC13	YWL7A1220	IC
C129	YWE212F105ZT	Ceramic 1 μ F	IC14-16	MN4792S	IC
C130	YW5F104Z2VB	Ceramic 0.1 μ F	IC17	YWL7A1219	IC
C131	ECST1AX106ZR	Tantalum 10 μ F 10V	IC18	MB90077PF104	IC
C132	YW5CH471J5VB	Ceramic 470 pF	IC19	YWTC4569F	IC
C133	ECEV1CG100GR	Electrolytic 10 μ F 16V	IC20	YWTC7SU04FL	IC
C134	YW5CH471J5VB	Ceramic 470 pF	IC23	YWTC7SU04FUL	IC
C135	YWE212F105ZT	Ceramic 1 μ F	Q1-4	2SK106945	FET
C139	YW5F104Z2VB	Ceramic 0.1 μ F	Q5	2SC4617	Transistor
C140,141	YW5X471K5VB	Ceramic 470 pF	Q9,10	2SC4619	Transistor
C142-144	YW5F104Z2VB	Ceramic 0.1 μ F	Q11	2SA1774	Transistor
C145,146	YW5CH510J5VB	Ceramic 51 pF	Q12,13	2SC4619	Transistor
C147	YW5F104Z2VB	Ceramic 0.1 μ F	D1	MA729	Diode
L1	EIC4EJ011E	Coil	D2	YWDA121	Diode
L8	ELJSC330KB	Coil 33 μ H	D3-8	YWHVU359TRF	Diode
L9-11	ELJFC8R2MF	Coil 8.2 μ H	D9-11	YWDA221	Diode
L13	ELJFC8R2MF	Coil 8.2 μ H	R3,4	ERJ3GEY0R00	Carbon 0 ohms 1/16W
L14	ELJSC330KB	Coil 33 μ H	R9	ERJ3GEY0R00	Carbon 0 ohms 1/16W
L17,19	ELJFC8R2MF	Coil 8.2 μ H	R10	ERJ3GEYJ102	Carbon 1K ohms 1/16W
L21,22	ELJSC101KB	Coil 100 μ H	R11,13	ERJ3GEY0R00	Carbon 0 ohms 1/16W
L23	ELJFB101KB	Coil 100 μ H	R14-18	ERJ3GEY0R00	Carbon 0 ohms 1/16W
CF1	YW4F57374	Filter	R20	ERJ3GEY0R00	Carbon 0 ohms 1/16W
CF2	YWNL4532S4R4	Filter	R27	ERJ3GEYJ511	Carbon 510 ohms 1/16W
CF4	ELB4B532	Filter	R29	ERJ3GEYJ102	Carbon 1K ohms 1/16W
CF5,6	YWH50ACB20T	Filter	R30	ERJ3GEYJ474	Carbon 470K ohms 1/16W
CF7	NFM41R00C221	Filter	R33	ERJ3GEYJ102	Carbon 1K ohms 1/16W
CF8	EIK4EW020T	Filter	R34	ERJ3GEYJ103	Carbon 10K ohms 1/16W
CF9	YWNL4532S4R4	Filter	R35	ERJ3GEYJ221	Carbon 220 ohms 1/16W
CN1	YW533071891	18-pin Connector	R36	ERJ3GEYJ104	Carbon 100K ohms 1/16W
CN2,3	YW31756316	6-pin Connector	R38	ERJ3GEYJ221	Carbon 220 ohms 1/16W
CN4,5	YW21775946	26-pin Connector	R39	ERJ3GEYJ823	Carbon 82K ohms 1/16W
CN6	YW533072091	20-pin Connector	R40	ERJ3GEYJ105	Carbon 1M ohms 1/16W
DIGITAL BOARD			R41	ERJ3GEY0R00	Carbon 0 ohms 1/16W
PCB7 (RTL)	YWVKCCP62E2A	Printed Circuit Board Assy	R44	ERJ3GEYJ103	Carbon 10K ohms 1/16W
IC1	MN6576	IC	R46	ERJ3GEYJ221	Carbon 220 ohms 1/16W
IC2	MN13821	IC	R48,49	ERJ3GEY0R00	Carbon 0 ohms 1/16W
IC3	MN673211M2U	IC	R51	ERJ3GEY0R00	Carbon 0 ohms 1/16W
IC4	YWB9020FE1	IC	R52	ERJ3GEYJ103	Carbon 10K ohms 1/16W
IC5	YWMB88346BEF	IC	R53	ERJ3GEYJ221	Carbon 220 ohms 1/16W
			R54	ERJ3GEYJ102	Carbon 1K ohms 1/16W
			R55	ERJ3GEYJ162	Carbon 1.6K ohms 1/16W
			R56	ERJ3GEYJ103	Carbon 10K ohms 1/16W
			R58	ERJ3GEYJ221	Carbon 220 ohms 1/16W
			R60,61	ERJ3GEYJ102	Carbon 1K ohms 1/16W
			R62	ERJ3GEYJ105	Carbon 1M ohms 1/16W
			R63	ERJ3GEYJ273	Carbon 27K ohms 1/16W
			R64	ERJ3GEYJ472	Carbon 4.7K ohms 1/16W
			R65	ERJ3GEYJ103	Carbon 10K ohms 1/16W
			R67	ERJ3GEYJ222	Carbon 2.2K ohms 1/16W
			R68	ERJ3GEYJ273	Carbon 27K ohms 1/16W

REF.NO.	PART NO.	DESCRIPTION		REF.NO.	PART NO.	DESCRIPTION	
R69	ERJ3GEYJ103	Carbon	10K ohms 1/16W	R550	ERJ3RHD181V	Metal	180 ohms 1/16W
R70	ERJ3GEYJ824	Carbon	820K ohms 1/16W	R551	ERJ3GEYJ333	Carbon	33K ohms 1/16W
R71	ERJ3GEYJ273	Carbon	27K ohms 1/16W	R552	ERJ3GEY0R00	Carbon	0 ohms 1/16W
R72	ERJ3GEYJ752	Carbon	7.5K ohms 1/16W	R553	ERJ3GEYJ133	Carbon	13K ohms 1/16W
R73	ERJ3GEYJ273	Carbon	27K ohms 1/16W	R554	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R74	ERJ3GEYJ302	Carbon	3K ohms 1/16W	R555	ERJ3GEYJ101	Carbon	100 ohms 1/16W
R75	ERJ3GEYJ105	Carbon	1M ohms 1/16W	R556	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R76	ERJ3GEY0R00	Carbon	0 ohms 1/16W	R557	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R77	ERJ3GEYJ102	Carbon	1K ohms 1/16W	R558	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R78,79	ERJ3GEYJ103	Carbon	10K ohms 1/16W	R559	ERJ3GEYJ152	Carbon	1.5K ohms 1/16W
R80-82	ERJ3GEY0R00	Carbon	0 ohms 1/16W	R560	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R83	ERJ3GEYJ105	Carbon	1M ohms 1/16W	R561	ERJ6GEY0R00	Carbon	0 ohms 1/10W
R84	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W	R563	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R85	ERJ3GEYJ512	Carbon	5.1K ohms 1/16W	R566	ERJ6GEY0R00	Carbon	1 ohms 1/10W
R86	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W	C1	ECST1AX106ZR	Tantalum	10 μ F
R89,91	ERJ3GEYJ682	Carbon	6.8K ohms 1/16W	C2,4	YW5F104Z2VB	Ceramic	0.1 μ F
R95,96	ERJ3GEYJ162	Carbon	1.6K ohms 1/16W	C6,12	YW5F104Z2VB	Ceramic	0.1 μ F
R106	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C14	YW5F104Z2VB	Ceramic	0.1 μ F
R107	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C15	YW5CH820J5VB	Ceramic	82 pF
R108	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C16	YW5F104Z2VB	Ceramic	0.1 μ F
R109	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C17	YW5CH820J5VB	Ceramic	82 pF
R111	ERJ3GEYJ333	Carbon	33K ohms 1/16W	C18	YW5CH360J5VB	Ceramic	36 pF
R112	ERJ3GEYJ561	Carbon	560 ohms 1/16W	C19	YW5CH330J5VB	Ceramic	33 pF
R113	ERJ3GEYJ101	Carbon	100 ohms 1/16W	C20	YW5X103K5VB	Ceramic	0.01 μ F
R114	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C21,22	YW5F104Z2VB	Ceramic	0.1 μ F
R115	ERJ3GEYJ361	Carbon	360 ohms 1/16W	C23	YW5X103K5VB	Ceramic	0.01 μ F
R116	ERJ3GEYJ202	Carbon	2K ohms 1/16W	C24	ECST0JY335	Tantalum	3.3 μ F 6.3V
R117-119	ERJ3GEYJ101	Carbon	100 ohms 1/16W	C25	YW5CH200J5VB	Ceramic	20 pF
R120,121	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W	C26	YW5CH430J5VB	Ceramic	43 pF
R122-129	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C27	YW5CH470J5VB	Ceramic	47 pF
R130	ERJ3GEYJ471	Carbon	470 ohms 1/16W	C29	YW5CH120J5VB	Ceramic	12 pF
R133	ERJ3GEYJ512	Carbon	5.1K ohms 1/16W	C39	YWE212F105ZT	Ceramic	1 μ F
R134-136	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C40-42	YW5F104Z2VB	Ceramic	0.1 μ F
R137,138	ERJ6GEY0R00	Carbon	1 ohms 1/10W	C43	YWE212F105ZT	Ceramic	1 μ F
R140	ERJ3GEYJ433	Carbon	43K ohms 1/16W	C44,45	YW5F104Z2VB	Ceramic	0.1 μ F
R142	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C46	TAJA105M016	Tantalum	1 μ F 16V
R143	ERJ3GEYJ623	Carbon	62K ohms 1/16W	C47	ECST1AY225ZR	Tantalum	2.2 μ F 10V
R144	ERJ3GEYJ124	Carbon	120K ohms 1/16W	C48	YW5F104Z2VB	Ceramic	0.1 μ F
R145	ERJ3GEYJ683	Carbon	68K ohms 1/16W	C49	ECST1AX106ZR	Tantalum	10 μ F 10V
R500,502	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C50	ECST1AY225ZR	Tantalum	2.2 μ F 10V
R504,505	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C51	ECST1AY335ZR	Tantalum	3.3 μ F 10V
R510	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W	C52-54	ECST1AX106ZR	Tantalum	10 μ F 10V
R511	ERJ3GEYJ221	Carbon	220 ohms 1/16W	C61	ECST1AX106ZR	Tantalum	10 μ F 10V
R514,516	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C63	YW5CH470J5VB	Ceramic	47 pF
R517,519	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C65	YWE212F105ZT	Ceramic	1 μ F
R524-530	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C66,67	YW5F104Z2VB	Ceramic	0.1 μ F
R536	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C68,69	YWE212F105ZT	Ceramic	1 μ F
R538	ERJ3GEYJ204	Carbon	200K ohms 1/16W	C70	YW5X103K5VB	Ceramic	0.01 μ F
R539	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C71	YW5CH470J5VB	Ceramic	47 pF
R540	ERJ3GEYJ822	Carbon	8.2K ohms 1/16W	C500-510	YW5F104Z2VB	Ceramic	0.1 μ F
R541	ERJ3GEYJ562	Carbon	5.6K ohms 1/16W	C511	ECST1AX106ZR	Tantalum	10 μ F 10V
R542	ERJ3GEYJ153	Carbon	15K ohms 1/16W	C512,517	YW5F104Z2VB	Ceramic	0.1 μ F
R543,544	ERJ3GEYJ333	Carbon	33K ohms 1/16W	C519-522	YW5F104Z2VB	Ceramic	0.1 μ F
R545	ERJ3GEYJ123	Carbon	12K ohms 1/16W	C528	YW5CH151J5VB	Ceramic	150 pF
R546,547	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W	C529	YW5CH101J5VB	Ceramic	100 pF

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
C530,531	YW5F104Z2VB	Ceramic 0.1 μ F	COLOUR CCTV CAMERA WV-CP614E		
C532	YWE212F105ZT	Ceramic 1 μ F	MISCELLANEOUS		
C533	YW5F104Z2VB	Ceramic 0.1 μ F	FB101	YWCP210J1B	Flexible Board
C535	ECST0JY106ZR	Tantalum 10 μ F 10V	CN101	YWP2270	BNC Connector
C536,539	YW5F104Z2VB	Ceramic 0.1 μ F	E102	YW840522	Insulator Fuse Cover
C540,541	YW5F104Z2VB	Ceramic 0.1 μ F	M1	YW8C-2B	Body Cap
C542,543	ECST1AX106ZR	Tantalum 10 μ F 10V	M2	YWV1EB0127A4	Special Screw
C546	YW5CH100J5VB	Ceramic 10 pF	M3	YWV3FA0178A3	FB Control Ring
L1	EIC4EJ012E	Coil	M4	YWV5BA0128A2	Front Escutcheon
L10	ELJFC8R2MF	Coil 8.2 μ H	M5	YWVAKA1346AN	Head Optical Assy
L13	ELJFC1R0MF	Coil 1 μ H	M6	YWV4JA0479A4	Spring Plate
L14	ELJFC2R2MF	Coil 2.2 μ H	M7	YWV2CA0386A4	Hold Plate for Spring Plate
L15	ELJFC8R2MF	Coil 8.2 μ H	M8	YWV4JA0262A4	Spring
L16	F2012E8R2KT	Coil 8.2 μ H	M9	YWV2SA2640A3	Mounting Angle
L17	ELJFB101KB	Coil 100 μ H	M10	YWV1EA0128A4	Special Screw
L19	ELJFC8R2MF	Coil 8.2 μ H	M11	YWV5WE1584A4	Front Panel
X1	EF0V8004E0A	Crystal Oscillator	M12	YWV5EA1363A2	Upper Cover
X2	YWDX14R187	Crystal Oscillator	M13	YWV2HA1168A3	Shield Parts
X3	YWDX17R734	Crystal Oscillator	M16	YWV2KA0874A2	Bottom Cover
CF1	YWNL4532S4R4	Filter	M17	YWV2TB0333A3	Mounting Bracket
CN1,2	YW51763136	Connector	M18	YWV1KA0128A4	Washer
E1	YWL3071A04A5	Internal Wire	M19	YWV5BA0121A3	Rear Escutcheon
E5	YWTC200T2X4	Insulator Sheet A	M20	YWV2SA2642A3	Mounting Angle
E6	YWTC500T2X2	Insulator Sheet B	M21	YWV5WA1679A4	Rear Panel
TP1,2	YWRCT2125TPV	Test -Pin	M23	YWV5RA0438A3	Knob for Rear Switch
ACCESSORY PARTS/PACKAGING PARTS			M25	YWV1KA0181A4	Washer
CN110	YFE4191J100	ALC Connector	M30	YWV7DA0401A4	Heat Sink
M51	YWV8QA3452AN	Operating Instructions	M31	YFV2NA0084A4	Spacer
M52	YWT050803	Polyethylene Bag	M32	YWV2PA0615A4	Insulator Sheet
M53	YWT20X35C03	Polyethylene Bag	M33	YWV7SA2097A4	Label
M55	YWV9CA2434AN	Packaging Assy	M35	YWV7MA0412A4	Safety Label
M57	YWV7SA1450A4	Label	M36	YWV7QA3486A4	Main Label
EXTENTION BOARD			M39	YWV5GA0171A4	Cap for Switch
EXB01	YWV0EA0326AN	Drive/Digital Extention Board			

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
C142-144	YW5F104Z2VB	Ceramic 0.1 μ F	D9-11	YWDA221	Diode
C145,146	YW5CH510J5VB	Ceramic 51 pF	R3,4	ERJ3GEY0R00	Carbon 0 ohms 1/16W
C147	YW5F104Z2VB	Ceramic 0.1 μ F	R9	ERJ3GEY0R00	Carbon 0 ohms 1/16W
L1	EIC4EJ011E	Coil	R10	ERJ3GEYJ102	Carbon 1K ohms 1/16W
L8	ELJSC330KB	Coil 33 μ H	R11,13	ERJ3GEY0R00	Carbon 0 ohms 1/16W
L9-11	ELJFC8R2MF	Coil 8.2 μ H	R14-18	ERJ3GEY0R00	Carbon 0 ohms 1/16W
L13	ELJFC8R2MF	Coil 8.2 μ H	R20	ERJ3GEY0R00	Carbon 0 ohms 1/16W
L14	ELJSC330KB	Coil 33 μ H	R27	ERJ3GEYJ511	Carbon 510 ohms 1/16W
L17,19	ELJFC8R2MF	Coil 8.2 μ H	R29	ERJ3GEYJ102	Carbon 1K ohms 1/16W
L21,22	ELJSC101KB	Coil 100 μ H	R30	ERJ3GEYJ474	Carbon 470K ohms 1/16W
L23	ELJFB101KB	Coil 100 μ H	R33	ERJ3GEYJ102	Carbon 1K ohms 1/16W
CF1	YW4F57374	Filter	R34	ERJ3GEYJ103	Carbon 10K ohms 1/16W
CF2	YWNL453254R4	Filter	R35	ERJ3GEYJ221	Carbon 220 ohms 1/16W
CF4	ELB4B532	Filter	R36	ERJ3GEYJ104	Carbon 100K ohms 1/16W
CF5,6	YWH50ACB20T	Filter	R38	ERJ3GEYJ221	Carbon 220 ohms 1/16W
CF7	NFM41R00C221	Filter	R39	ERJ3GEYJ823	Carbon 82K ohms 1/16W
CF8	EIK4EW020T	Filter	R40	ERJ3GEYJ105	Carbon 1M ohms 1/16W
CF9	YWNL453254R4	Filter	R41	ERJ3GEY0R00	Carbon 0 ohms 1/16W
CN1	YW533071891	18-pin Connector	R44	ERJ3GEYJ103	Carbon 10K ohms 1/16W
CN2,3	YW31756316	6-pin Connector	R46	ERJ3GEYJ221	Carbon 220 ohms 1/16W
CN4,5	YW21775946	26-pin Connector	R48,49	ERJ3GEY0R00	Carbon 0 ohms 1/16W
CN6	YW533072091	20-pin Connector	R51	ERJ3GEY0R00	Carbon 0 ohms 1/16W
DIGITAL BOARD			R52	ERJ3GEYJ103	Carbon 10K ohms 1/16W
PCB7 (RTL)	YWVKCCP61E2A	Printed Circuit Board Assy	R53	ERJ3GEYJ221	Carbon 220 ohms 1/16W
IC1	MN6576	IC	R54	ERJ3GEYJ102	Carbon 1K ohms 1/16W
IC2	MN13821	IC	R55	ERJ3GEYJ162	Carbon 1.6K ohms 1/16W
IC3	MN673211M2U	IC	R56	ERJ3GEYJ103	Carbon 10K ohms 1/16W
IC4	YWBR9020FE1	IC	R58	ERJ3GEYJ221	Carbon 220 ohms 1/16W
IC5	YWMB88346BEF	IC	R60,61	ERJ3GEYJ102	Carbon 1K ohms 1/16W
IC8	YWTMP90C3427	IC	R62	ERJ3GEYJ105	Carbon 1M ohms 1/16W
IC9	YWCF45107PGJ	IC	R63	ERJ3GEYJ273	Carbon 27K ohms 1/16W
IC10	YWAMSY10G	IC	R64	ERJ3GEYJ472	Carbon 4.7K ohms 1/16W
IC11	YWUPC664GS	IC	R65	ERJ3GEYJ103	Carbon 10K ohms 1/16W
IC12	YWM60071FP	IC	R67	ERJ3GEYJ222	Carbon 2.2K ohms 1/16W
IC13	YWL7A1220	IC	R68	ERJ3GEYJ273	Carbon 27K ohms 1/16W
IC14-16	MN47925	IC	R69	ERJ3GEYJ103	Carbon 10K ohms 1/16W
IC17	YWL7A1219	IC	R70	ERJ3GEYJ824	Carbon 820K ohms 1/16W
IC18	MB90077PF104	IC	R71	ERJ3GEYJ273	Carbon 27K ohms 1/16W
IC19	YWTC4569F	IC	R72	ERJ3GEYJ752	Carbon 7.5K ohms 1/16W
IC20	YWTC7SU04FL	IC	R73	ERJ3GEYJ273	Carbon 27K ohms 1/16W
IC23	YWTC7SU04FUL	IC	R74	ERJ3GEYJ302	Carbon 3K ohms 1/16W
Q1-4	2SK106945	FET	R75	ERJ3GEYJ105	Carbon 1M ohms 1/16W
Q5	2SC4617	Transistor	R76	ERJ3GEY0R00	Carbon 0 ohms 1/16W
Q9,10	2SC4619	Transistor	R77	ERJ3GEYJ102	Carbon 1K ohms 1/16W
Q11	2SA1774	Transistor	R78,79	ERJ3GEYJ103	Carbon 10K ohms 1/16W
Q12,13	2SC4619	Transistor	R80-82	ERJ3GEY0R00	Carbon 0 ohms 1/16W
D1	MA729	Diode	R83	ERJ3GEYJ105	Carbon 1M ohms 1/16W
D2	YWDA121	Diode	R84	ERJ3GEYJ222	Carbon 2.2K ohms 1/16W
D3-8	YWHVU359TRF	Diode	R85	ERJ3GEYJ512	Carbon 5.1K ohms 1/16W
			R86	ERJ3GEYJ472	Carbon 4.7K ohms 1/16W
			R89,91	ERJ3GEYJ682	Carbon 6.8K ohms 1/16W
			R95,96	ERJ3GEYJ162	Carbon 1.6K ohms 1/16W
			R106	ERJ3GEYJ102	Carbon 1K ohms 1/16W
			R107	ERJ3GEY0R00	Carbon 0 ohms 1/16W
			R108,110	ERJ3GEYJ102	Carbon 1K ohms 1/16W

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
C1	ECQV1H474JZ	Plastic 0.47 μ F 50V	D10,11	YWHVU359TRF	Diode
C2,3	ECQM1103KZ	Plastic 0.01 μ F 50V	D14,15	YWDA121	Diode
C5	ECEA1HGE331	Electrolytic 330 μ F 50V	D16-19	MA726	Diode
C6	ECA1VFQ270	Electrolytic 27 μ F 35V	D20	MA8091M	Diode
C7	YW400105FZ	Ceramic 1 μ F	D23	MA112	Diode
C8	YF400681CHJT	Ceramic 680 μ F 50V	TH252	L311F202J402	Thermistor
C9	YF400104FZT	Ceramic 0.1 μ F	R14	ERJ3GEY0R00	Carbon 0 ohms 1/16W
C10	ECEA1HGE3R3	Electrolytic 3.3 μ F 50V	R20	ERJ3GEYJ102	Carbon 1K ohms 1/16W
C11	YF400104FZT	Ceramic 0.1 μ F	R21	ERJ3GEYJ202	Carbon 2K ohms 1/16W
C12	YF400103XKT	Ceramic 0.01 μ F	R26	ERJ3GEYJ102	Carbon 1K ohms 1/16W
C13	YW400105FZ	Ceramic 1 μ F	R28	ERJ3GEYJ104	Carbon 100K ohms 1/16W
C14,15	ECA1CFQ271	Electrolytic 270 μ F 16V	R29	ERJ3GEYJ432	Carbon 4.3K ohms 1/16W
C16	ECA1CFQ121	Electrolytic 120 μ F 16V	R31	ERJ3GEYJ153	Carbon 15K ohms 1/16W
C17	YF400104FZT	Ceramic 0.1 μ F	R32	ERJ3GEYJ103	Carbon 10K ohms 1/16W
C18	ECQM1103KZ	Plastic 0.01 μ F	R33	ERJ3GEYJ154	Carbon 150K ohms 1/16W
C20	ECQV1H104JZ	Plastic 0.1 μ F 50V	R34,35	ERJ3GEYJ104	Carbon 100K ohms 1/16W
L1	YWSU10H07040	Coil	R36,37	ERJ3GEYJ560	Carbon 56 ohms 1/16W
L2	YWPC7330K	Coil 33 μ H	R38,41	ERJ3GEY0R00	Carbon 0 ohms 1/16W
T1	ETS22BC125AC	Power Transformer	R44,46	ERJ3GEY0R00	Carbon 0 ohms 1/16W
CN1	YW526630810	8-pin Connector	R47	ERJ3GEYJ151	Carbon 150 ohms 1/16W
F1	XBA2C20ET0A	Current Fuse 2A 250V	R52	ERJ3GEYJ102	Carbon 1K ohms 1/16W
E1,2	S-N5057	Fuse Holder	R54	ERJ3GEY0R00	Carbon 0 ohms 1/16W
M25	YWV1KA0181A4	Washer	R55	ERJ3GEYJ331	Carbon 330 ohms 1/16W
			R56,58	ERJ3GEY0R00	Carbon 0 ohms 1/16W
			R59,60	ERJ3GEYJ562	Carbon 5.6K ohms 1/16W
DRIVE BOARD			R63	ERJ3GEY0R00	Carbon 0 ohms 1/16W
PCB6 (RTL)	YWVKBCP61E2A	Printed Circuit Board Assy	R64	ERJ3GEYJ103	Carbon 10K ohms 1/16W
IC1	AN2018S	IC	R66	ERJ3GEYJ102	Carbon 1K ohms 1/16W
IC2	YWTC74AT04F	IC	R68	ERJ3GEYJ103	Carbon 10K ohms 1/16W
IC3	YWC5023068E1	IC	R69	ERJ3GEYJ105	Carbon 1M ohms 1/16W
IC4	YWCXD2404R	IC	R72	YF2116222GT	Carbon 2.2K ohms 1/10W
IC6	AN2034FAP	IC	R73	ERJ3GEYJ101	Carbon 100 ohms 1/16W
IC8	YWC5020074E1	IC	R75,80	ERJ3GEYJ102	Carbon 1K ohms 1/16W
IC10	MN3112SA	IC	R81	ERJ3GEYJ221	Carbon 220 ohms 1/16W
IC13	YWTC74VC04FS	IC	R90	ERJ3GEYJ202	Carbon 2K ohms 1/16W
IC15	YWNJM2406F	IC	R93	ERJ3GEYJ472	Carbon 4.7K ohms 1/16W
Q1	2SK106945	FET	R97	ERJ3GEY0R00	Carbon 0 ohms 1/16W
Q9,15	2SC4617	Transistor	R99	ERJ3GEYJ101	Carbon 100 ohms 1/16W
Q17,18	2SB1218A-QR	Transistor	R100,107	ERJ3GEY0R00	Carbon 0 ohms 1/16W
Q19	2SA1774	Transistor	R110	ERJ3GEY0R00	Carbon 0 ohms 1/16W
Q22	2SC4617	Transistor	R121,123	ERJ3GEYJ102	Carbon 1K ohms 1/16W
Q23	UMZ1	Transistor	R129,131	ERJ3GEY0R00	Carbon 0 ohms 1/16W
Q24	2SA1774	Transistor	R132,144	ERJ3GEY0R00	Carbon 0 ohms 1/16W
Q26,27	2SC4617	Transistor	R145	ERJ3GEY0R00	Carbon 0 ohms 1/16W
Q28	2SA1774	Transistor	R146	ERJ3GEYJ102	Carbon 1K ohms 1/16W
Q29	2SD1819-QRS	Transistor	R147	ERJ3GEY0R00	Carbon 0 ohms 1/16W
Q30	2SC4617	Transistor	R153	ERJ3GEYJ222	Carbon 2.2K ohms 1/16W
Q33,34	2SC4619	Transistor	R157-159	ERJ3GEY0R00	Carbon 0 ohms 1/16W
Q35	2SC4617	Transistor	R160	ERJ3GEYJ222	Carbon 2.2K ohms 1/16W
Q36,37	2SC4619	Transistor	R161	ERJ3GEYJ302	Carbon 3K ohms 1/16W
Q38	2SC4617	Transistor	R162	ERJ3GEYJ153	Carbon 15K ohms 1/16W
D3	YWDA121	Diode	R163	ERJ3GEYJ751	Carbon 750 ohms 1/16W
			R167	ERJ14YJ750	Carbon 75 ohms 1/16W
			R175,176	ERJ3RHD102V	Metal 1K ohms 1/16W
			R183	ERJ3GEYJ102	Carbon 1K ohms 1/16W

REF.NO.	PART NO.	DESCRIPTION		REF.NO.	PART NO.	DESCRIPTION	
R186-188	ERJ3GEYJ100	Carbon	10 ohms 1/16W	C11	YW5X222K5VB	Ceramic	2200 pF
R189	ERJ3GEYJ821	Carbon	820 ohms 1/16W	C15	YW5CH101J5VB	Ceramic	100 pF
R190,191	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C16	YW5CH201J5VB	Ceramic	200 pF
R196	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C17	YW5X103K5VB	Ceramic	0.01 μ F
R197	ERJ3GEYJ162	Carbon	1.6K ohms 1/16W	C18	YW5F104Z2VB	Ceramic	0.1 μ F
R198	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C19	YW5CH201J5VB	Ceramic	200 pF
R201	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C20-22	YW5F104Z2VB	Ceramic	0.1 μ F
R202	ERJ3GEYJ432	Carbon	4.3K ohms 1/16W	C23	YW5X103K5VB	Ceramic	0.01 μ F
R203	ERJ3GEYJ221	Carbon	220 ohms 1/16W	C25	TAJA105M016	Tantalum	1 μ F 16V
R204,205	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C27	YW5CH180J5VB	Ceramic	18 pF
R206	ERJ3GEYJ104	Carbon	100K ohms 1/16W	C28	YW5F104Z2VB	Ceramic	0.1 μ F
R207	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C29	YF400104FZT	Ceramic	0.1 μ F
R209	ERJ3GEYJ163	Carbon	16K ohms 1/16W	C43	YW5F104Z2VB	Ceramic	0.1 μ F
R210	ERJ3GEYJ473	Carbon	47K ohms 1/16W	C44,45	YF400104FZT	Ceramic	0.1 μ F
R211	ERJ3GEYJ104	Carbon	100K ohms 1/16W	C49	ECEV1CG220GP	Tantalum	22 μ F 16V
R212	ERJ3GEYJ221	Carbon	220 ohms 1/16W	C50	YWE212F105ZT	Ceramic	1 μ F
R213-216	ERJ3GEYJ220	Carbon	22 ohms 1/16W	C51	ECST1AY225ZR	Tantalum	2.2 μ F 10V
R217	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C61	ECEV1HGE3R3	Electrolytic	3.3 μ F 50V
R218	ERJ3GEYJ363	Carbon	36K ohms 1/16W	C75	ECEV0JG101GP	Electrolytic	100 μ F 6.3V
R219	ERJ3GEYJ104	Carbon	100K ohms 1/16W	C76	ECEV1CG220GP	Electrolytic	22 μ F 16V
R220	ERJ3GEYJ101	Carbon	100 ohms 1/16W	C78	YF400332XKT	Ceramic	3300 pF
R221,222	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W	C80	ECST1AD476ZR	Tantalum	47 μ F 10V
R223	ERJ3GEYJ101	Carbon	100 ohms 1/16W	C81,82	ECST1AX106ZR	Tantalum	10 μ F 10V
R224	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C84	YWE212F105ZT	Ceramic	1 μ F
R225,226	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C85,87	ECST1AD476ZR	Tantalum	47 μ F 10V
R228,229	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C88	TAJA105M016	Tantalum	1 μ F 16V
R238	ERJ3GEYJ561	Carbon	560 ohms 1/16W	C89,90	ECST1AX106ZR	Tantalum	10 μ F 10V
R240	ERJ3GEYJ331	Carbon	330 ohms 1/16W	C92	ECST1AX106ZR	Tantalum	10 μ F 10V
R243	ERJ3GEYJ821	Carbon	820 ohms 1/16W	C93	ECST0JY106ZR	Tantalum	10 μ F 6.3V
R244	ERJ3GEYJ182	Carbon	1.8K ohms 1/16W	C94,95	YW5F104Z2VB	Ceramic	0.1 μ F
R245	ERJ3GEYJ821	Carbon	820 ohms 1/16W	C98,99	YW5X102K5VB	Ceramic	1000 pF
R246	ERJ3GEYJ302	Carbon	3K ohms 1/16W	C101,102	YF400104FZT	Ceramic	0.1 μ F
R247	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W	C109	YW5F104Z2VB	Ceramic	0.1 μ F
R248,249	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W	C110	YWE212F105ZT	Ceramic	1 μ F
R251	ERJ3GEYJ362	Carbon	3.6K ohms 1/16W	C111	ECGC1CB4R7R	Semiconductor	4.7 μ F 16V
R253	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C112	ECST1VY224Z	Tantalum	0.22 μ F 35V
R255,256	ERJ3GEYJ132	Carbon	1.3K ohms 1/16W	C113	ECST1VY104	Tantalum	0.1 μ F 35V
R257	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C114,115	ECEV1CV100	Electrolytic	10 μ F 10V
R258	ERJ3GEYJ202	Carbon	2K ohms 1/16W	C116,117	ECEV1CG100GR	Electrolytic	10 μ F 10V
R259	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C119	ECEV1CV100	Electrolytic	10 μ F 10V
R260	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C120,121	ECEV1CG100GR	Electrolytic	10 μ F 16V
R261	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C124	ECEV1VG220GP	Electrolytic	22 μ F 35V
R262	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C125	ECEV1CG220GP	Electrolytic	22 μ F 16V
R263	ERJ3GEYJ203	Carbon	20K ohms 1/16W	C126	YW5F104Z2VB	Ceramic	0.1 μ F
R264-268	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C127	YWE212F105ZT	Ceramic	1 μ F
R269	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C128	TAJA105M016	Tantalum	1 μ F 16V
R270	ERJ3GEYJ823	Carbon	82K ohms 1/16W	C129	YWE212F105ZT	Ceramic	1 μ F
R271	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C130	YW5F104Z2VB	Ceramic	0.1 μ F
R272,273	ERJ3GEYJ100	Carbon	10 ohms 1/16W	C131	ECST1AX106ZR	Tantalum	10 μ F 10V
R274	ERJ6GEY0R00	Carbon	1 ohms 1/10W	C132	YW5CH471J5VB	Ceramic	470 pF
C3	YW5X103K5VB	Ceramic	0.01 μ F	C133	ECEV1CG100GR	Electrolytic	10 μ F 16V
C6	YW5X102K5VB	Ceramic	1000 pF	C134	YW5CH471J5VB	Ceramic	470 pF
C7,8	YW5F104Z2VB	Ceramic	0.1 μ F	C135	YWE212F105ZT	Ceramic	1 μ F
C9	YW5F473Z2VB	Ceramic	0.047 μ F	C139	YW5F104Z2VB	Ceramic	0.1 μ F
C10	YWE212F105ZT	Ceramic	1 μ F	C140,141	YW5X471K5VB	Ceramic	470 pF

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
C142-144	YW5F104Z2VB	Ceramic 0.1 μ F	D9-11	YWDA221	Diode
C145,146	YW5CH510J5VB	Ceramic 51 pF	R3,4	ERJ3GEY0R00	Carbon 0 ohms 1/16W
C147	YW5F104Z2VB	Ceramic 0.1 μ F	R9	ERJ3GEY0R00	Carbon 0 ohms 1/16W
L1	EIC4EJ011E	Coil	R10	ERJ3GEYJ102	Carbon 1K ohms 1/16W
L8	ELJ5C330KB	Coil 33 μ H	R11,13	ERJ3GEY0R00	Carbon 0 ohms 1/16W
L9-11	ELJFC8R2MF	Coil 8.2 μ H	R14-18	ERJ3GEY0R00	Carbon 0 ohms 1/16W
L13	ELJFC8R2MF	Coil 8.2 μ H	R20	ERJ3GEY0R00	Carbon 0 ohms 1/16W
L14	ELJ5C330KB	Coil 33 μ H	R27	ERJ3GEYJ511	Carbon 510 ohms 1/16W
L17,19	ELJFC8R2MF	Coil 8.2 μ H	R29	ERJ3GEYJ102	Carbon 1K ohms 1/16W
L21,22	ELJ5C101KB	Coil 100 μ H	R30	ERJ3GEYJ474	Carbon 470K ohms 1/16W
L23	ELJFB101KB	Coil 100 μ H	R33	ERJ3GEYJ102	Carbon 1K ohms 1/16W
CF1	YW4F57374	Filter	R34	ERJ3GEYJ103	Carbon 10K ohms 1/16W
CF2	YWNL4532S4R4	Filter	R35	ERJ3GEYJ221	Carbon 220 ohms 1/16W
CF4	ELB4B532	Filter	R36	ERJ3GEYJ104	Carbon 100K ohms 1/16W
CF5,6	YWH50ACB20T	Filter	R38	ERJ3GEYJ221	Carbon 220 ohms 1/16W
CF7	NFM41R00C221	Filter	R39	ERJ3GEYJ823	Carbon 82K ohms 1/16W
CF8	EIK4EW020T	Filter	R40	ERJ3GEYJ105	Carbon 1M ohms 1/16W
CF9	YWNL4532S4R4	Filter	R41	ERJ3GEY0R00	Carbon 0 ohms 1/16W
CN1	YW533071891	18-pin Connector	R44	ERJ3GEYJ103	Carbon 10K ohms 1/16W
CN2,3	YW31756316	6-pin Connector	R46	ERJ3GEYJ221	Carbon 220 ohms 1/16W
CN4,5	YW21775946	26-pin Connector	R48,49	ERJ3GEY0R00	Carbon 0 ohms 1/16W
CN6	YW533072091	20-pin Connector	R51	ERJ3GEY0R00	Carbon 0 ohms 1/16W
DIGITAL BOARD			R52	ERJ3GEYJ103	Carbon 10K ohms 1/16W
PCB7 (RTL)	YWVKCCP61E2A	Printed Circuit Board Assy	R53	ERJ3GEYJ221	Carbon 220 ohms 1/16W
IC1	MN6576	IC	R54	ERJ3GEYJ102	Carbon 1K ohms 1/16W
IC2	MN13821	IC	R55	ERJ3GEYJ162	Carbon 1.6K ohms 1/16W
IC3	MN673211M2U	IC	R56	ERJ3GEYJ103	Carbon 10K ohms 1/16W
IC4	YWBR9020FE1	IC	R58	ERJ3GEYJ221	Carbon 220 ohms 1/16W
IC5	YWMB88346BEF	IC	R60,61	ERJ3GEYJ102	Carbon 1K ohms 1/16W
IC8	YWTMP90C3427	IC	R62	ERJ3GEYJ105	Carbon 1M ohms 1/16W
IC9	YWCF45107PGJ	IC	R63	ERJ3GEYJ273	Carbon 27K ohms 1/16W
IC10	YWAMSY10G	IC	R64	ERJ3GEYJ472	Carbon 4.7K ohms 1/16W
IC11	YWUPC664GS	IC	R65	ERJ3GEYJ103	Carbon 10K ohms 1/16W
IC12	YWM60071FP	IC	R67	ERJ3GEYJ222	Carbon 2.2K ohms 1/16W
IC13	YWL7A1220	IC	R68	ERJ3GEYJ273	Carbon 27K ohms 1/16W
IC14-16	MN47925	IC	R69	ERJ3GEYJ103	Carbon 10K ohms 1/16W
IC17	YWL7A1219	IC	R70	ERJ3GEYJ824	Carbon 820K ohms 1/16W
IC18	MB90077PF104	IC	R71	ERJ3GEYJ273	Carbon 27K ohms 1/16W
IC19	YWTC4569F	IC	R72	ERJ3GEYJ752	Carbon 7.5K ohms 1/16W
IC20	YWTC7SU04FL	IC	R73	ERJ3GEYJ273	Carbon 27K ohms 1/16W
IC23	YWTC7SU04FUL	IC	R74	ERJ3GEYJ302	Carbon 3K ohms 1/16W
Q1-4	25K106945	FET	R75	ERJ3GEYJ105	Carbon 1M ohms 1/16W
Q5	25C4617	Transistor	R76	ERJ3GEY0R00	Carbon 0 ohms 1/16W
Q9,10	25C4619	Transistor	R77	ERJ3GEYJ102	Carbon 1K ohms 1/16W
Q11	25A1774	Transistor	R78,79	ERJ3GEYJ103	Carbon 10K ohms 1/16W
Q12,13	25C4619	Transistor	R80-82	ERJ3GEY0R00	Carbon 0 ohms 1/16W
D1	MA729	Diode	R83	ERJ3GEYJ105	Carbon 1M ohms 1/16W
D2	YWDA121	Diode	R84	ERJ3GEYJ222	Carbon 2.2K ohms 1/16W
D3-8	YWHVU359TRF	Diode	R85	ERJ3GEYJ512	Carbon 5.1K ohms 1/16W
			R86	ERJ3GEYJ472	Carbon 4.7K ohms 1/16W
			R89,91	ERJ3GEYJ682	Carbon 6.8K ohms 1/16W
			R95,96	ERJ3GEYJ162	Carbon 1.6K ohms 1/16W
			R106	ERJ3GEYJ102	Carbon 1K ohms 1/16W
			R107	ERJ3GEY0R00	Carbon 0 ohms 1/16W
			R108,110	ERJ3GEYJ102	Carbon 1K ohms 1/16W

REF.NO.	PART NO.	DESCRIPTION		REF.NO.	PART NO.	DESCRIPTION	
R111	ERJ3GEYJ333	Carbon	33K ohms 1/16W	C18	YW5CH360J5VB	Ceramic	36 pF
R112	ERJ3GEYJ561	Carbon	560 ohms 1/16W	C19	YW5CH330J5VB	Ceramic	33 pF
R113	ERJ3GEYJ101	Carbon	100 ohms 1/16W	C20	YW5X103K5VB	Ceramic	0.01 μ F
R114	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C21,22	YW5F104Z2VB	Ceramic	0.1 μ F
R115	ERJ3GEYJ361	Carbon	360 ohms 1/16W	C23	YW5X103K5VB	Ceramic	0.01 μ F
R116	ERJ3GEYJ202	Carbon	2K ohms 1/16W	C24	ECST0JY335	Tantalum	3.3 μ F 6.3V
R117-119	ERJ3GEYJ101	Carbon	100 ohms 1/16W	C25	YW5CH200J5VB	Ceramic	20 pF
R120,121	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W	C26	YW5CH430J5VB	Ceramic	43 pF
R122-129	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C27	YW5CH470J5VB	Ceramic	47 pF
R130	ERJ3GEYJ471	Carbon	470 ohms 1/16W	C29	YW5CH120J5VB	Ceramic	12 pF
R133	ERJ3GEYJ512	Carbon	5.1K ohms 1/16W	C39	YWE212F105ZT	Ceramic	1 μ F
R134-136	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C40-42	YW5F104Z2VB	Ceramic	0.1 μ F
R137,138	ERJ6GEY0R00	Carbon	1 ohms 1/10W	C43	YWE212F105ZT	Ceramic	1 μ F
R140	ERJ3GEYJ433	Carbon	43K ohms 1/16W	C44,45	YW5F104Z2VB	Ceramic	0.1 μ F
R142	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C46	TAJA105M016	Tantalum	1 μ F 16V
R143	ERJ3GEYJ623	Carbon	62K ohms 1/16W	C47	ECST1AY225ZR	Tantalum	2.2 μ F 10V
R144	ERJ3GEYJ124	Carbon	120K ohms 1/16W	C48	YW5F104Z2VB	Ceramic	0.1 μ F
R145	ERJ3GEYJ683	Carbon	68K ohms 1/16W	C49	ECST1AX106ZR	Tantalum	10 μ F 10V
R500,502	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C50	ECST1AY225ZR	Tantalum	2.2 μ F 10V
R504,505	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C51	ECST1AY335ZR	Tantalum	3.3 μ F 10V
R510	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W	C52-54	ECST1AX106ZR	Tantalum	10 μ F 10V
R511	ERJ3GEYJ221	Carbon	220 ohms 1/16W	C61	ECST1AX106ZR	Tantalum	10 μ F 10V
R514,516	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C63	YW5CH470J5VB	Ceramic	47 pF
R517,519	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C64	YW5F104Z2VB	Ceramic	0.1 μ F
R524-530	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C65	YWE212F105ZT	Ceramic	1 μ F
R536	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C66,67	YW5F104Z2VB	Ceramic	0.1 μ F
R538	ERJ3GEYJ204	Carbon	200K ohms 1/16W	C68,69	YWE212F105ZT	Ceramic	1 μ F
R539	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C70	YW5X103K5VB	Ceramic	0.01 μ F
R540	ERJ3GEYJ822	Carbon	8.2K ohms 1/16W	C71	YW5CH470J5VB	Ceramic	47 pF
R541	ERJ3GEYJ562	Carbon	5.6K ohms 1/16W	C500-510	YW5F104Z2VB	Ceramic	0.1 μ F
R542	ERJ3GEYJ153	Carbon	15K ohms 1/16W	C511	ECST1AX106ZR	Tantalum	10 μ F 10V
R543,544	ERJ3GEYJ333	Carbon	33K ohms 1/16W	C512,517	YW5F104Z2VB	Ceramic	0.1 μ F
R545	ERJ3GEYJ123	Carbon	12K ohms 1/16W	C519-522	YW5F104Z2VB	Ceramic	0.1 μ F
R546,547	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W	C528	YW5CH151J5VB	Ceramic	150 pF
R550	ERJ3RHD181V	Metal	180 ohms 1/16W	C529	YW5CH101J5VB	Ceramic	100 pF
R551	ERJ3GEYJ333	Carbon	33K ohms 1/16W	C530,531	YW5F104Z2VB	Ceramic	0.1 μ F
R552	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C532	YWE212F105ZT	Ceramic	1 μ F
R553	ERJ3GEYJ133	Carbon	13K ohms 1/16W	C533	YW5F104Z2VB	Ceramic	0.1 μ F
R554	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C535	ECST0JY106ZR	Tantalum	10 μ F 6.3V
R555	ERJ3GEYJ101	Carbon	100 ohms 1/16W	C536,539	YW5F104Z2VB	Ceramic	0.1 μ F
R556	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C540,541	YW5F104Z2VB	Ceramic	0.1 μ F
R557	ERJ3GEYJ331	Carbon	330 ohms 1/16W	C542,543	ECST1AX106ZR	Tantalum	10 μ F 10V
R558	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C546	YW5CH100J5VB	Ceramic	10 pF
R559	ERJ3GEYJ152	Carbon	1.5K ohms 1/16W	L1	EIC4EJ012E	Coil	
R560	ERJ3GEYJ103	Carbon	10K ohms 1/16W	L10	ELJFC8R2MF	Coil	8.2 μ H
R561	ERJ6GEY0R00	Carbon	1 ohms 1/10W	L13	ELJFC1R0MF	Coil	1 μ H
R563	ERJ3GEYJ103	Carbon	10K ohms 1/16W	L14	ELJFC2R2MF	Coil	8.2 μ H
R566	ERJ6GEY0R00	Carbon	1 ohms 1/10W	L15	ELJFC8R2MF	Coil	8.2 μ H
C1	ECST1AX106ZR	Tantalum	10 μ F 10V	L16	F2012E8R2KT	Coil	8.2 μ H
C2,4	YW5F104Z2VB	Ceramic	0.1 μ F	L17	ELJFB101KB	Coil	100 μ H
C6,12	YW5F104Z2VB	Ceramic	0.1 μ F				
C14	YW5F104Z2VB	Ceramic	0.1 μ F				
C15	YW5CH820J5VB	Ceramic	82 pF				
C16	YW5F104Z2VB	Ceramic	0.1 μ F				
C17	YW5CH820J5VB	Ceramic	82 pF				

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
L19	ELJFC8R2MF	Coil 8.2 μ H	ACCESSORY PARTS/PACKAGING PARTS		
X1	EF0V8004E0A	Crystal Oscillator	CN110	YFE4191J100	ALC Connector
X2	YWDX14R187	Crystal Oscillator	M51	YWV8QA3452AN	Operating Instructions
X3	YWDX17R734	Crystal Oscillator	M52	YWT050803	Polyethylene Bag
CF1	YWNL4532S4R4	Filter	M53	YWT20X35C03	Polyethylene Bag
CN1,2	YW51763136	26-pin Connector	M55	YWV9CA2433AN	Packaging Assy
E	YWL3071A04A5	Internal Wire	M57	YWV7SA1450A4	Label
TP1,2	YWRCT2125TPV	Test- Pin	EXTENTION BOARD		
			EXB01	YWV0EA0326AN	Drive/Digital Extention Board

U11455

ORDER NO. AVS950294558

Service Manual

Supplement-1

Colour CCTV Cameras

WV-CP610/WV-CP612/WV-CP614

Please use this supplement service manual together with original service manual for Model No. WV-CP610/WV-CP612/WV-CP614 Order No. AVS9412936C8.

1. Change of Parts List

The original parts list should be revised with this supplement.

2. Correction of Exploded View

Corrected portion are indicated by shaded mark.

Panasonic

© 1994 Matsushita Communication Industrial Co., Ltd.
All rights reserved. Unauthorized copying and
distribution is a violation of law.

 WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.

It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.

Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

 CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN  CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.		This symbol warns the user that uninsulated voltage within the unit may have sufficient magnitude to cause electric shock. Therefore, it is dangerous to make any kind of contact with any inside part of this unit.
		This symbol alerts the user that important literature concerning the operation and maintenance of this has been included. Therefore, it should be read carefully in order to avoid any problems.

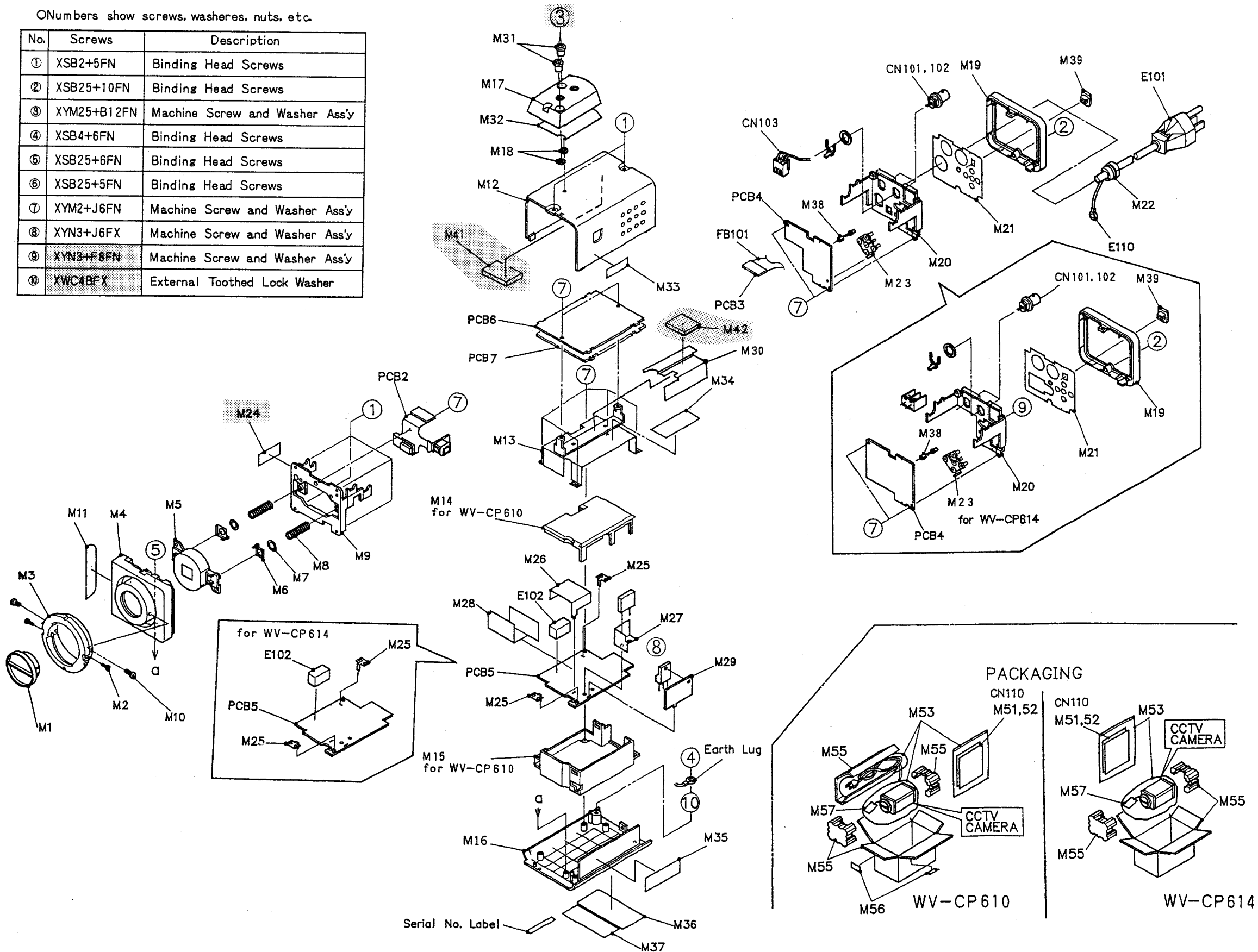
IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are indicated by the  mark on the schematic diagram and the replacement parts list. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire, or other hazards. Do not modify the original design without permission of manufacturer.

EXPLODED VIEW for WV-CP610/WV-CP614

ONumbers show screws, washers, nuts, etc.

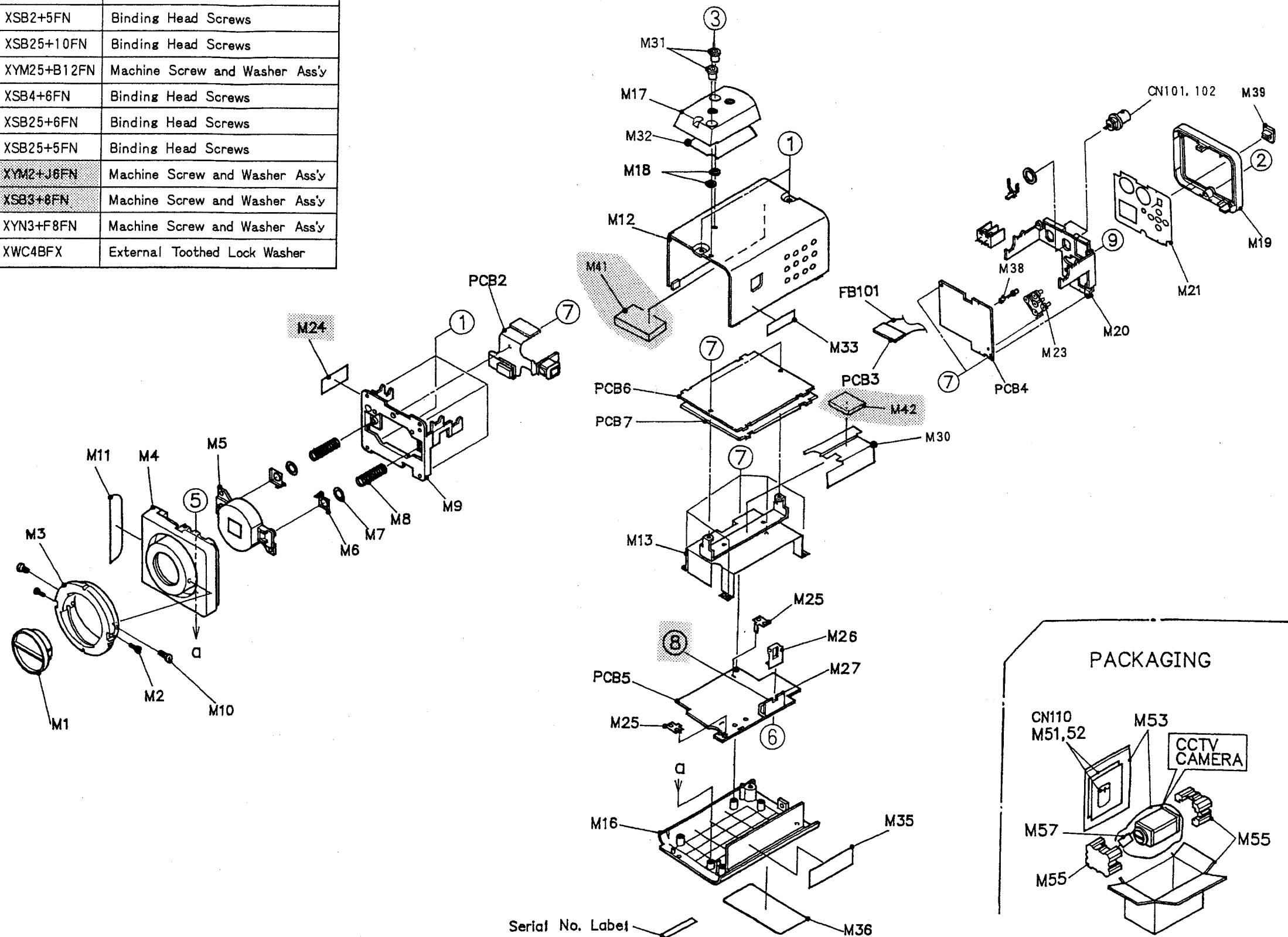
No.	Screws	Description
①	XSB2+5FN	Binding Head Screws
②	XSB25+10FN	Binding Head Screws
③	XYM25+B12FN	Machine Screw and Washer Ass'y
④	XSB4+6FN	Binding Head Screws
⑤	XSB25+6FN	Binding Head Screws
⑥	XSB25+5FN	Binding Head Screws
⑦	XYM2+J6FN	Machine Screw and Washer Ass'y
⑧	XYN3+J6FX	Machine Screw and Washer Ass'y
⑨	XYN3+F8FN	Machine Screw and Washer Ass'y
⑩	XWC4BFX	External Toothed Lock Washer



EXPLODED VIEW for WV-CP612

ONumbers show screws, washers, nuts, etc.

No.	Screws	Description
①	XSB2+5FN	Binding Head Screws
②	XSB25+10FN	Binding Head Screws
③	XYM25+B12FN	Machine Screw and Washer Ass'y
④	XSB4+6FN	Binding Head Screws
⑤	XSB25+6FN	Binding Head Screws
⑥	XSB25+5FN	Binding Head Screws
⑦	XYM2+J6FN	Machine Screw and Washer Ass'y
⑧	XSB3+8FN	Machine Screw and Washer Ass'y
⑨	XYN3+F8FN	Machine Screw and Washer Ass'y
⑩	XWC4BFX	External Toothed Lock Washer



REPLACEMENT PARTS LIST

Important Notice

- Components identified by "<I>" mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.
- RTL : Retention Time Limited,

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
COLOUR CCTV CAMERA WV-CP610					
MISCELLANEOUS					
FB101	YWCP210J1B	Flexible Board	M35	YWV7MA0412A4	Safety Label
CN101,102	YWP2270	BNC Connector	M36	YWV7QA3485A4	Main Label for WV-CP610/A
CN103	YWVAR2	2-pin Connector		YWV7QA3483A4	Main Label for WV-CP610/B
E101 <I>	YWKP5515XA	Power Cable Assy for WV-CP610/A		YWV7QA3484A4	Main Label for WV-CP610/G
	YWKP6105XB	Power Cable Assy for WV-CP610/B	M39	YWV5GA0171A4	Cap for Switch
	YWKP4819DSXG	Power Cable Assy for WV-CP610/G	M41	YWTC200T2X4	Insulator Sheet A
E102	YW840522	Insulator Fuse Cover	M42	YWTC500T2X2	Insulator Sheet B
M1	YWBC-2B	Body Cap	ALC BOARD		
M2	YWV1EB0127A4	Special Screw	PCB2 (RTL)	YWVKYCP61E5A	Printed Circuit Board Assy
M3	YWV3FA0178A3	FB Control Ring	L1	YWNL251R8J	Coil 1.8 μ H
M4	YWV5BA0128A2	Front Escutcheon	L2,3	YWNL252R2J	Coil 2.2 μ H
M5	YWWAKA1346AN	Head Optical Assy	L4	YWNL251R8J	Coil 1.8 μ H
M6	YWV4JA0479A4	Spring Plate	CN1	AXN420330P	20-pin Connector
M7	YWV2CA0386A4	Hold Plate for Spring Plate	CN2	YFD4151N200	4-pin ALC Connector
M8	YWV4JA0262A4	Spring	CN3	YW525881890	18-pin Connector
M9	YWV2SA2640A3	Mounting Angle	CONNECTOR BOARD		
M10	YWV1EA0128A4	Special Screw	PCB3 (RTL)	YWVKBCP61P4A	Printed Circuit Board Assy
M11	YWV5WE1584A4	Panel	CN1	YW525882090	20-pin Connector
M12	YWV5EA1363A2	Upper Cover	REAR BOARD		
M13	YWV2HA1168A3	Shield Parts	PCB4 (RTL)	YWVKCCP61P4A	Printed Circuit Board Assy
M14	YWV6EA0196A3	Shield Cover	IC7	YWMB3775PFV	IC
M15	YWV5KA1357A3	Shield Case	Q2,3	2SB766A-QR	Transistor
M16	YWV2KA0874A2	Bottom Cover	D1,2	YWSC80206L	Diode
M17	YWV2TB0333A3	Mounting Bracket	D3	LN28RPPN	LED
M18	YWV1KA0128A4	Washer	R1	ERJ3GEYJ751	Carbon 75 Ω ohms 1/16W
M19	YWV5BA0121A3	Rear Escutcheon	R7	ERJ3GEYJ103	Carbon 10 Ω ohms 1/16W
M20	YWV2SA2641A3	Mounting Angle	R8	ERJ3GEYJ750	Carbon 75 Ω ohms 1/16W
M21	YWV5WA1678A4	Rear Panel	R134	ERJ3GEYJ333	Carbon 33 Ω ohms 1/16W
M22	YWSR6W1	Cord Clamp	R135	ERJ3GEYJ561	Carbon 56 Ω ohms 1/16W
M23	YWV5RA0438A3	Knob for Rear Switch			
M24	YWV7MA0443A4	Fuse Sub Label			
M25	YWV1KA0181A4	Washer			
M26	YWV2HA1169A4	Shield Parts			
M27	YWV2PA0612A4	Insulator			
M28	YWV2PA0613A4	Insulator			
M29	YWV7DA0374B4	Heat Sink			
M30	YWV7DA0401A4	Heat Sink			
M31	YFV2NA0084A4	Spacer			
M32	YWV2PA0615A4	Insulator			
M33	YWV7SA2096A4	Label			

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
R136	ERJ3GEYJ682	Carbon 6.8K ohms 1/16W	D7	YWSC80209R	Diode
R137	ERJ3GEYJ182	Carbon 1.8K ohms 1/16W	VS1 <1>	ERZC07DK471U	ZNR
R138	ERJ3GEYJ163	Carbon 16K ohms 1/16W	R1	ERJ14YJ114	Carbon 110K ohms 1/4W
R139	ERJ3GEYJ333	Carbon 33K ohms 1/16W	R2	YF2116220JT	Carbon 22 ohms 1/10W
R140	ERJ6GEYJ182	Carbon 1.8K ohms 1/10W	R3	YF2116184JT	Carbon 180K ohms 1/10W
R141	ERJ3GEYJ163	Carbon 16K ohms 1/16W	R4	YF2116220JT	Carbon 22 ohms 1/10W
R142	ERJ3GEYJ561	Carbon 560 ohms 1/16W	R5	YF2116183GT	Carbon 18K ohms 1/10W
R168	ERJ3RHD622V	Metal 6.2K ohms 1/16W	R6	YW2116242JT	Carbon 2.4K ohms 1/10W
R169	ERJ3RHD183V	Metal 18K ohms 1/16W	R7	ERJ6GEYJ221	Carbon 220 ohms 1/10W
R170	ERJ3RHD682V	Metal 6.8K ohms 1/16W	R8	ERJ14YJ2R0	Carbon 2 ohms 1/4W
R171	ERJ3RHD392V	Metal 3.9K ohms 1/16W	R9,10	ERJ14YJ913	Carbon 91K ohms 1/4W
R184	ERJ6GEYJ112	Carbon 1.1K ohms 1/10W	R11	YF2116392JT	Carbon 3.9K ohms 1/10W
C1	YW5F104Z2VB	Ceramic 0.1 μ F	R12	ERJ6GEYJ221	Carbon 220 ohms 1/10W
C37	YW5CH331J5VB	Ceramic 330 pF	R13	ERJ6GEYJ102	Carbon 1K ohms 1/10W
C38	TAJA105M016	Electrolytic 1 μ F 16V	R14	YWR1220P161D	Metal 160 ohms
C39,40	YW5F104Z2VB	Ceramic 0.1 μ F	R15	YWR1220P163D	Metal 16K ohms
C41	TAJA105M016	Electrolytic 1 μ F 16V	R16	YF2116681JT	Carbon 680 ohms 1/10W
C42	YW5X103K5VB	Ceramic 0.01 μ F	R17	YWR1220P622D	Metal 6.2K ohms
C68	ECST0JY475	Electrolytic 4.7 μ F 6.3V	R18	ERJ6GEYJ103	Carbon 10K ohms 1/10W
C69	ECGC0JB330R	Semiconductor Capait	R19	ERJ6GEYJ512	Carbon 5.1K ohms 1/10W
C70	ECGC1BA4R7R	Semiconductor Capaital	R20	YF2116124GT	Carbon 120K ohms 1/10W
C71	ECST0JY685	Electrolytic	R21,22	ERJ14YJ114	Carbon 110K ohms
C72	ECGC0JB330R	Semiconductor Capaital	R23	ERJ6GEYJ363	Carbon 36K ohms 1/10W
C97	YW5F104Z2VB	Ceramic 0.1 μ F	R30	ERJ6GEY0R00	Carbon 0 ohms 1/10W
L3,4	YWCDR63220MC	Coil	R31,32	ERJ8GCS0R00	Carbon 0 ohms 1/8W
L16	YWCDR63220MC	Coil	C1	ECQU2A333MV	Plastic 0.033 μ F
SW1-5	EVQPJX05M	Push Switch	C2-4	ECKDRS222ME	Ceramic 2200 pF
SW6	YWKSD02S	Slide Switch	C5	RJ3400V100M	Electrolytic 10 μ F 40V
CN2	YW533910690	6-pin Connector	C6	ECA1VFQ270	Electrolytic 27 μ F 35V
M38	YWLH53	LED Spacer	C7	YW400105FZ	Ceramic 1 μ F
POWER BOARD			C8	YF400681CHJT	Ceramic 680 μ F 50V
PCB5 (RTL)	YWVKYBP11E3A	Printed Circuit Board Assy	C9	YF400104FZT	Ceramic 0.1 μ F
IC1	YWFA5304S	IC	C10	ECEA1HGE3R3	Electrolytic 3.3 μ F 50V
IC2	YWTA76431S	IC	C11	YF400103XKT	Ceramic 0.01 μ F
Q1	2SK154801M	FET	C12	YF400822XKT	Ceramic 8200 pF
Q4	2SC2412-QRS	Transistor	C13	YF400104FZT	Ceramic 0.1 μ F
D1 <1>	S1VB60	Diode	C14,15	ECA1CFQ271	Electrolytic 270 μ F 16V
D2	YWDAN217	Diode	C16	ECA1CFQ121	Electrolytic 120 μ F 16V
D3	YWSC2012	Diode	C17	YF400104FZT	Ceramic 0.1 μ F
D4	YWDTZ5.1	Diode	C18,19	ECKDRS332ME	Ceramic 3300 pF
D5,6	YWPC111LY	Diode	C20	ECQU2A563MT	Plastic 0.056 μ F
			L1	ELF23F215A	Coil
			L2	YWPC7330K	Coil 33 μ H
			T1 <1>	YWPC19HWA9	Power Transformer
			CN1	YWB2P3VH	2-pin Connector
			CN2	YW526630610	6-pin Connector
			F1 <1>	XBA2C04ET0A	Current Fuse 0.4A 250V
			E1,2	S-N5057	Fuse Holder
			E3,4	YW851040	Insulator Cap

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
DRIVE BOARD					
PCB6 (RTL)	YWVKBCEP61E2A	Printed Circuit Board Assy	R63	ERJ3GEY0R00	Carbon 0 ohms 1/16W
IC1	AN2018S	IC	R64	ERJ3GEYJ103	Carbon 10K ohms 1/16W
IC2	YWTC74AT04F	IC	R66	ERJ3GEYJ102	Carbon 1K ohms 1/16W
IC3	YWC5023068E1	IC	R68	ERJ3GEYJ103	Carbon 10K ohms 1/16W
IC4	YWCXD2404R	IC	R69	ERJ3GEYJ105	Carbon 1M ohms 1/16W
IC6	AN2034FAP	IC			
IC8	YWC5020074E1	IC	R72	YF2116222GT	Carbon 2.2K ohms 1/10W
IC10	MN3112SA	IC	R73	ERJ3GEYJ101	Carbon 100 ohms 1/16W
IC13	YWTC74VC04FS	IC	R75,80	ERJ3GEYJ102	Carbon 1K ohms 1/16W
IC15	YWNJM2406F	IC	R81	ERJ3GEYJ221	Carbon 220 ohms 1/16W
Q1	2SK106945	FET	R90	ERJ3GEYJ202	Carbon 2K ohms 1/16W
Q9,15	2SC4617	Transistor	R93	ERJ3GEYJ472	Carbon 4.7K ohms 1/16W
Q17,18	2SB1218A-QR	Transistor	R97	ERJ3GEY0R00	Carbon 0 ohms 1/16W
Q19	2SA1774	Transistor	R99	ERJ3GEYJ101	Carbon 100 ohms 1/16W
Q22	2SC4617	Transistor	R100,107	ERJ3GEY0R00	Carbon 0 ohms 1/16W
Q23	UMZ1	Transistor	R110	ERJ3GEY0R00	Carbon 0 ohms 1/16W
Q24	2SA1774	Transistor			
Q26,27	2SC4617	Transistor	R121,123	ERJ3GEYJ102	Carbon 1K ohms 1/16W
Q28	2SA1774	Transistor	R129,131	ERJ3GEY0R00	Carbon 0 ohms 1/16W
Q29	2SD1819-QRS	Transistor	R132,144	ERJ3GEY0R00	Carbon 0 ohms 1/16W
Q30	2SC4617	Transistor	R145	ERJ3GEY0R00	Carbon 0 ohms 1/16W
Q33,34	2SC4619	Transistor	R146	ERJ3GEYJ102	Carbon 1K ohms 1/16W
Q35	2SC4617	Transistor			
Q36,37	2SC4619	Transistor	R147	ERJ3GEY0R00	Carbon 0 ohms 1/16W
Q38	2SC4617	Transistor	R153	ERJ3GEYJ222	Carbon 2.2K ohms 1/16W
D3	YWDA121	Diode	R157-159	ERJ3GEY0R00	Carbon 0 ohms 1/16W
D10,11	YWHVU359TRF	Diode	R160	ERJ3GEYJ222	Carbon 2.2K ohms 1/16W
D14,15	YWDA121	Diode	R161	ERJ3GEYJ302	Carbon 3K ohms 1/16W
D16-19	MA726	Diode			
D20	MA8091M	Diode	R162	ERJ3GEYJ153	Carbon 15K ohms 1/16W
D23	MA112	Diode	R163	ERJ3GEYJ751	Carbon 750 ohms 1/16W
TH252	L311F202J402	Thermistor	R167	ERJ14YJ750	Carbon 750 ohms 1/4W
R14	ERJ3GEY0R00	Carbon 0 ohms 1/16W	R175,176	ERJ3RHD102V	Metal 1K ohms 1/16W
R20	ERJ3GEYJ102	Carbon 1K ohms 1/16W	R183	ERJ3GEYJ102	Carbon 1K ohms 1/16W
R21	ERJ3GEYJ202	Carbon 2K ohms 1/16W			
R26	ERJ3GEYJ102	Carbon 1K ohms 1/16W	R186-188	ERJ3GEYJ100	Carbon 10 ohms 1/16W
R28	ERJ3GEYJ104	Carbon 100K ohms 1/16W	R189	ERJ3GEYJ821	Carbon 820 ohms 1/16W
R29	ERJ3GEYJ432	Carbon 4.3K ohms 1/16W	R190,191	ERJ3GEYJ102	Carbon 1K ohms 1/16W
R31	ERJ3GEYJ153	Carbon 15K ohms 1/16W	R196	ERJ3GEY0R00	Carbon 0 ohms 1/16W
R32	ERJ3GEYJ103	Carbon 10K ohms 1/16W	R197	ERJ3GEYJ162	Carbon 1.6K ohms 1/16W
R33	ERJ3GEYJ154	Carbon 150K ohms 1/16W			
R34,35	ERJ3GEYJ104	Carbon 100K ohms 1/16W	R198	ERJ3GEYJ102	Carbon 1K ohms 1/16W
R36,37	ERJ3GEYJ560	Carbon 56 ohms 1/16W	R201	ERJ3GEY0R00	Carbon 0 ohms 1/16W
R38,41	ERJ3GEY0R00	Carbon 0 ohms 1/16W	R202	ERJ3GEYJ432	Carbon 4.3K ohms 1/16W
R44,46	ERJ3GEY0R00	Carbon 0 ohms 1/16W	R203	ERJ3GEYJ221	Carbon 220 ohms 1/16W
R47	ERJ3GEYJ151	Carbon 150 ohms 1/16W	R204,205	ERJ3GEYJ102	Carbon 1K ohms 1/16W
R52	ERJ3GEYJ102	Carbon 1K ohms 1/16W			
R54	ERJ3GEY0R00	Carbon 0 ohms 1/16W	R206	ERJ3GEYJ104	Carbon 10K ohms 1/16W
R55	ERJ3GEYJ331	Carbon 330 ohms 1/16W	R207	ERJ3GEY0R00	Carbon 0 ohms 1/16W
R56,58	ERJ3GEY0R00	Carbon 0 ohms 1/16W	R209	ERJ3GEYJ163	Carbon 16K ohms 1/16W
R59,60	ERJ3GEYJ562	Carbon 5.6K ohms 1/16W	R210	ERJ3GEYJ473	Carbon 47K ohms 1/16W
			R211	ERJ3GEYJ104	Carbon 10K ohms 1/16W
			R212	ERJ3GEYJ221	Carbon 220 ohms 1/16W
			R213-216	ERJ3GEYJ220	Carbon 220 ohms 1/16W
			R217	ERJ3GEYJ103	Carbon 10K ohms 1/16W
			R218	ERJ3GEYJ363	Carbon 36K ohms 1/16W
			R219	ERJ3GEYJ104	Carbon 10K ohms 1/16W
			R220	ERJ3GEYJ101	Carbon 10K ohms 1/16W
			R221,222	ERJ3GEYJ222	Carbon 2.2K ohms 1/16W
			R223	ERJ3GEYJ101	Carbon 10K ohms 1/16W
			R224	ERJ3GEY0R00	Carbon 0 ohms 1/16W
			R225,226	ERJ3GEYJ103	Carbon 10K ohms 1/16W

REF.NO.	PART NO.	DESCRIPTION		REF.NO.	PART NO.	DESCRIPTION	
R228,229	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C88	TAJA105M016	Tantalum	1 μ F 16V
R238	ERJ3GEYJ561	Carbon	560 ohms 1/16W	C89,90	ECST1AX106ZR	Tantalum	10 μ F 10V
R240	ERJ3GEYJ331	Carbon	330 ohms 1/16W	C92	ECST1AX106ZR	Tantalum	10 μ F 10V
R243	ERJ3GEYJ821	Carbon	820 ohms 1/16W	C93	ECST0JY106ZR	Tantalum	10 μ F 6.3V
R244	ERJ3GEYJ182	Carbon	1.8K ohms 1/16W	C94,95	YW5F104Z2VB	Ceramic	0.1 μ F
R245	ERJ3GEYJ821	Carbon	820 ohms 1/16W	C98,99	YW5X102K5VB	Ceramic	1000 μ F
R246	ERJ3GEYJ302	Carbon	3K ohms 1/16W	C101,102	YF400104FZT	Ceramic	0.1 μ F
R247	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W	C109	YW5F104Z2VB	Ceramic	0.1 μ F
R248,249	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W	C110	YWE212F105ZT	Ceramic	1 μ F
R251	ERJ3GEYJ362	Carbon	3.6K ohms 1/16W	C111	ECGC1CB4R7R	Semiconductor	4.7 μ F 16V
R253	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C112	ECST1VY224Z	Tantalum	0.22 μ F 35V
R255,256	ERJ3GEYJ132	Carbon	1.3K ohms 1/16W	C113	ECST1VY104	Tantalum	0.1 μ F 35V
R257	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C114,115	ECEV1CV100	Electrolytic	10 μ F 16V
R258	ERJ3GEYJ202	Carbon	2K ohms 1/16W	C116,117	ECEV1CG100GR	Electrolytic	10 μ F 16V
R259	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C119	ECEV1CV100	Electrolytic	10 μ F 16V
R260	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C120,121	ECEV1CG100GR	Electrolytic	1 μ F 16V
R261	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C124	ECEV1VG220GP	Electrolytic	22 μ F 35V
R262	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C125	ECEV1CG220GP	Electrolytic	22 μ F 16V
R263	ERJ3GEYJ203	Carbon	20K ohms 1/16W	C126	YW5F104Z2VB	Ceramic	0.1 μ F
R264-268	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C127	YWE212F105ZT	Ceramic	1 μ F
R269	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C128	TAJA105M016	Electrolytic	1 μ F 16V
R270	ERJ3GEYJ823	Carbon	82K ohms 1/16W	C129	YWE212F105ZT	Ceramic	1 μ F
R271	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C130	YW5F104Z2VB	Ceramic	0.1 μ F
R272,273	ERJ3GEYJ100	Carbon	10 ohms 1/16W	C131	ECST1AX106ZR	Tantalum	10 μ F 10V
R274	ERJ6GEY0R00	Carbon	1 ohms 1/10W	C132	YW5CH471J5VB	Ceramic	470 pF
C3	YW5X103K5VB	Ceramic	0.01 μ F	C133	ECEV1CG100GR	Electrolytic	10 μ F 16V
C6	YW5X102K5VB	Ceramic	1000 μ F	C134	YW5CH471J5VB	Ceramic	470 pF
C7,8	YW5F104Z2VB	Ceramic	0.1 μ F	C135	YWE212F105ZT	Ceramic	1 μ F
C9	YW5F473Z2VB	Ceramic	0.047 μ F	C139	YW5F104Z2VB	Ceramic	0.1 μ F
C10	YWE212F105ZT	Ceramic	1 μ F	C140,141	YW5X471K5VB	Ceramic	470 μ F
C11	YW5X222K5VB	Ceramic	2200 μ F	C142-144	YW5F104Z2VB	Ceramic	0.1 μ F
C15	YW5CH101J5VB	Ceramic	100 μ F	C145,146	YW5CH510J5VB	Ceramic	51 μ F
C16	YW5CH201J5VB	Ceramic	200 μ F	C147	YW5F104Z2VB	Ceramic	0.1 μ F
C17	YW5X103K5VB	Ceramic	0.01 μ F	L1	ELC4EJ011E	Coil	
C18	YW5F104Z2VB	Ceramic	0.1 μ F	L8	ELJSC330KB	Coil	33 μ H
C19	YW5CH201J5VB	Ceramic	200 μ F	L9-11	ELJFC8R2MF	Coil	8.2 μ H
C20-22	YW5F104Z2VB	Ceramic	0.1 μ F	L13	ELJFC8R2MF	Coil	8.2 μ H
C23	YW5X103K5VB	Ceramic	0.01 μ F	L14	ELJSC330KB	Coil	33 μ H
C25	TAJA105M016	Tantalum	1 μ F 16V	L17,19	ELJFC8R2MF	Coil	8.2 μ H
C27	YW5CH180J5VB	Ceramic	18 μ F	L21,22	ELJSC101KB	Coil	100 μ H
C28	YW5F104Z2VB	Ceramic	0.1 μ F	L23	ELJFB101KB	Coil	100 μ H
C29	YF400104FZT	Ceramic	0.1 μ F	CF1	YW4FS7374	Filter	8.2 μ H
C43	YW5F104Z2VB	Ceramic	0.1 μ F	CF2	YWNL4532S4R4	Filter	
C44,45	YF400104FZT	Ceramic	0.1 μ F	CF4	ELB4B532	Filter	
C49	ECEV1CG220GP	Electrolytic	22 μ F 16V	CF5,6	YWH50ACB20T	Filter	
C50	YWE212F105ZT	Ceramic	1 μ F	CF7	NFM41R00C221	Filter	
C51	ECST1AY225ZR	Tantalum	2.2 μ F 10V	CF8	EIK4EW020T	Filter	
C61	ECEV1HG3R3	Electrolysis	3.3 μ F 50V	CF9	YWNL4532S4R4	Filter	
C75	ECEV0JG101GP	Electrolytic	100 μ F 6.3V	CN1	YW533071891	18-pin Connector	
C76	ECEV1CG220GP	Electrolytic	22 μ F 16V	CN2,3	YW31756316	6-pin Connector	
C78	YF400332XKT	Ceramic	3300 pF	CN4,5	YW21775946	26-pin Connector	
C80	ECST1AD476ZR	Tantalum	47 μ F 10V	CN6	YW533072091	20-pin Connector	
C81,82	ECST1AX106ZR	Tantalum	10 μ F 10V				
C84	YWE212F105ZT	Ceramic	1 μ F				
C85,87	ECST1AD476ZR	Tantalum	47 μ F 10V				

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
DIGITAL BOARD					
PCB7 (RTL)	YWVKCCP61E2A	Printed Circuit Board Assy	R55	ERJ3GEYJ162	Carbon 1.6K ohms 1/16W
IC1	MN6576	IC	R56	ERJ3GEYJ103	Carbon 10K ohms 1/16W
IC2	MN13821	IC	R58	ERJ3GEYJ221	Carbon 220 ohms 1/16W
IC3	MN673211M2U	IC	R60,61	ERJ3GEYJ102	Carbon 1K ohms 1/16W
IC4	YWBR9020FE1	IC	R62	ERJ3GEYJ105	Carbon 1M ohms 1/16W
IC5	YWMB88346BEF	IC			
IC8	YWTMP90C3427	IC	R63	ERJ3GEYJ273	Carbon 27K ohms 1/16W
IC9	YWCF45107PGJ	IC	R64	ERJ3GEYJ472	Carbon 4.7K ohms 1/16W
IC10	YWAMS10G	IC	R65	ERJ3GEYJ103	Carbon 10K ohms 1/16W
IC11	YWUPC664GS	IC	R67	ERJ3GEYJ222	Carbon 2.2K ohms 1/16W
IC12	YWM60071FP	IC	R68	ERJ3GEYJ273	Carbon 27K ohms 1/16W
IC13	YWL7A1220	IC			
IC14-16	MN47925	IC	R69	ERJ3GEYJ103	Carbon 10K ohms 1/16W
IC17	YWL7A1219	IC	R70	ERJ3GEYJ824	Carbon 820K ohms 1/16W
IC18	MB90077PF104	IC	R71	ERJ3GEYJ273	Carbon 27K ohms 1/16W
IC19	YWTC4S69F	IC	R72	ERJ3GEYJ752	Carbon 7.5K ohms 1/16W
IC20	YWTC7SU04FL	IC	R73	ERJ3GEYJ273	Carbon 27K ohms 1/16W
IC23	YWTC7SU04FUL	IC			
Q1-4	2SK106945	FET	R74	ERJ3GEYJ302	Carbon 3K ohms 1/16W
Q5	2SC4617	Transistor	R75	ERJ3GEYJ105	Carbon 1M ohms 1/16W
Q9,10	2SC4619	Transistor	R76	ERJ3GEY0R00	Carbon 0 ohms 1/16W
Q11	2SA1774	Transistor	R77	ERJ3GEYJ102	Carbon 1K ohms 1/16W
Q12,13	2SC4619	Transistor	R78,79	ERJ3GEYJ103	Carbon 10K ohms 1/16W
D1	MA729	Diode			
D2	YWDA121	Diode	R80-82	ERJ3GEY0R00	Carbon 0 ohms 1/16W
D3-8	YWHVU359TRF	Diode	R83	ERJ3GEYJ105	Carbon 1M ohms 1/16W
D9-11	YWDA221	Diode	R84	ERJ3GEYJ222	Carbon 2.2K ohms 1/16W
R3,4	ERJ3GEY0R00	Carbon 0 ohms 1/16W	R85	ERJ3GEYJ512	Carbon 5.1K ohms 1/16W
R9	ERJ3GEY0R00	Carbon 0 ohms 1/16W	R86	ERJ3GEYJ472	Carbon 4.7K ohms 1/16W
R10	ERJ3GEYJ102	Carbon 1K ohms 1/16W			
R11,13	ERJ3GEY0R00	Carbon 0 ohms 1/16W	R89,91	ERJ3GEYJ682	Carbon 6.8K ohms 1/16W
R14-18	ERJ3GEY0R00	Carbon 0 ohms 1/16W	R95,96	ERJ3GEYJ162	Carbon 1.6K ohms 1/16W
R20	ERJ3GEY0R00	Carbon 0 ohms 1/16W	R106	ERJ3GEYJ102	Carbon 1K ohms 1/16W
R27	ERJ3GEYJ511	Carbon 510 ohms 1/16W	R107	ERJ3GEY0R00	Carbon 0 ohms 1/16W
R29	ERJ3GEYJ102	Carbon 1K ohms 1/16W	R108,110	ERJ3GEYJ102	Carbon 1K ohms 1/16W
R30	ERJ3GEYJ474	Carbon 470K ohms 1/16W			
R33	ERJ3GEYJ102	Carbon 1K ohms 1/16W	R111	ERJ3GEYJ333	Carbon 33K ohms 1/16W
R34	ERJ3GEYJ103	Carbon 10K ohms 1/16W	R112	ERJ3GEYJ561	Carbon 56K ohms 1/16W
R35	ERJ3GEYJ221	Carbon 220 ohms 1/16W	R113	ERJ3GEYJ101	Carbon 10K ohms 1/16W
R36	ERJ3GEYJ104	Carbon 100K ohms 1/16W	R114	ERJ3GEY0R00	Carbon 0 ohms 1/16W
R38	ERJ3GEYJ221	Carbon 220 ohms 1/16W	R115	ERJ3GEYJ361	Carbon 36K ohms 1/16W
R39	ERJ3GEYJ823	Carbon 82K ohms 1/16W			
R40	ERJ3GEYJ105	Carbon 1M ohms 1/16W	R116	ERJ3GEYJ202	Carbon 2K ohms 1/16W
R41	ERJ3GEY0R00	Carbon 0 ohms 1/16W	R117-119	ERJ3GEYJ101	Carbon 10K ohms 1/16W
R44	ERJ3GEYJ103	Carbon 10K ohms 1/16W	R120,121	ERJ3GEYJ222	Carbon 2.2K ohms 1/16W
R46	ERJ3GEYJ221	Carbon 220 ohms 1/16W	R122-129	ERJ3GEYJ103	Carbon 10K ohms 1/16W
R48,49	ERJ3GEY0R00	Carbon 0 ohms 1/16W	R130	ERJ3GEYJ471	Carbon 47K ohms 1/16W
R51	ERJ3GEY0R00	Carbon 0 ohms 1/16W			
R52	ERJ3GEYJ103	Carbon 10K ohms 1/16W	R133	ERJ3GEYJ512	Carbon 5.1K ohms 1/16W
R53	ERJ3GEYJ221	Carbon 220 ohms 1/16W	R134-136	ERJ3GEYJ103	Carbon 10K ohms 1/16W
R54	ERJ3GEYJ102	Carbon 1K ohms 1/16W	R137,138	ERJ6GEY0R00	Carbon 1 ohms 1/10W
			R140	ERJ3GEYJ433	Carbon 43K ohms 1/16W
			R142	ERJ3GEYJ103	Carbon 10K ohms 1/16W
			R143	ERJ3GEYJ623	Carbon 62K ohms 1/16W
			R144	ERJ3GEYJ124	Carbon 12K ohms 1/16W
			R145	ERJ3GEYJ683	Carbon 68K ohms 1/16W
			R500,502	ERJ3GEY0R00	Carbon 0 ohms 1/16W
			R504,505	ERJ3GEY0R00	Carbon 0 ohms 1/16W
			R510	ERJ3GEYJ222	Carbon 2.2K ohms 1/16W
			R511	ERJ3GEYJ221	Carbon 22K ohms 1/16W
			R514,516	ERJ3GEY0R00	Carbon 0 ohms 1/16W
			R517,519	ERJ3GEY0R00	Carbon 0 ohms 1/16W
			R524-530	ERJ3GEY0R00	Carbon 0 ohms 1/16W

REF.NO.	PART NO.	DESCRIPTION		REF.NO.	PART NO.	DESCRIPTION	
R536	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C66,67	YW5F104Z2VB	Ceramic	0.1 μ F
R538	ERJ3GEYJ204	Carbon	200K ohms 1/16W	C68,69	YWE212F105ZT	Ceramic	1 μ F
R539	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C70	YW5X103K5VB	Ceramic	0.01 μ F
R540	ERJ3GEYJ822	Carbon	8.2K ohms 1/16W	C71	YW5CH470J5VB	Ceramic	47 pF
R541	ERJ3GEYJ562	Carbon	5.6K ohms 1/16W	C500-510	YW5F104Z2VB	Ceramic	0.1 μ F
R542	ERJ3GEYJ153	Carbon	15K ohms 1/16W	C511	ECST1AX106ZR	Tantalum	10 μ F 10V
R543,544	ERJ3GEYJ333	Carbon	33K ohms 1/16W	C512,517	YW5F104Z2VB	Ceramic	0.1 μ F
R545	ERJ3GEYJ123	Carbon	12K ohms 1/16W	C519-522	YW5F104Z2VB	Ceramic	0.1 μ F
R546,547	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W	C528	YW5CH151J5VB	Ceramic	150 pF
R550	ERJ3RHD181V	Metal	180 ohms 1/16W	C529	YW5CH101J5VB	Ceramic	100 pF
R551	ERJ3GEYJ333	Carbon	33K ohms 1/16W	C530,531	YW5F104Z2VB	Ceramic	0.1 μ F
R552	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C532	YWE212F105ZT	Ceramic	1 μ F
R553	ERJ3GEYJ133	Carbon	13K ohms 1/16W	C533	YW5F104Z2VB	Ceramic	0.1 μ F
R554	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C535	ECST0JY106ZR	Tantalum	10 μ F
R555	ERJ3GEYJ101	Carbon	100 ohms 1/16W	C536,539	YW5F104Z2VB	Ceramic	0.1 μ F
R556	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C540,541	YW5F104Z2VB	Ceramic	0.1 μ F
R557	ERJ3GEYJ331	Carbon	330 ohms 1/16W	C542,543	ECST1AX106ZR	Tantalum	10 μ F 10V
R558	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C546	YW5CH100J5VB	Ceramic	10 pF
R559	ERJ3GEYJ152	Carbon	1.5K ohms 1/16W	L1	EIC4EJ012E	Coil	
R560	ERJ3GEYJ103	Carbon	10K ohms 1/16W	L10	ELJFC8R2MF	Coil	8.2 μ H
R561	ERJ6GEY0R00	Carbon	1 ohms 1/10W	L13	ELJFC1R0MF	Coil	1 μ H
R563	ERJ3GEYJ103	Carbon	10K ohms 1/16W	L14	ELJFC2R2MF	Coil	2.2 μ H
R566	ERJ6GEY0R00	Carbon	1 ohms 1/10W	L15	ELJFC8R2MF	Coil	8.2 μ H
C1	ECST1AX106ZR	Tantalum	10 μ F 10V	L16	F2012E8R2KT	Coil	8.2 μ H
C2,4	YW5F104Z2VB	Ceramic	0.1 μ F	L17	ELJFB101KB	Coil	100 μ H
C6,12	YW5F104Z2VB	Ceramic	0.1 μ F	L19	ELJFC8R2MF	Coil	8.2 μ H
C14	YW5F104Z2VB	Ceramic	0.1 μ F	X1	EF0V8004E0A	Crystal Oscillator	
C15	YW5CH820J5VB	Ceramic	82 pF	X2	YWDX14R187	Crystal Oscillator	
C16	YW5F104Z2VB	Ceramic	0.1 μ F	X3	YWDX17R734	Crystal Oscillator	
C17	YW5CH820J5VB	Ceramic	82 pF	CF1	YWNL4532S4R4	Filter	
C18	YW5CH360J5VB	Ceramic	36 pF	CN1,2	YW51763136	Connector	
C19	YW5CH330J5VB	Ceramic	33 pF	E1	YWL3071A04A5	Internal Wire	
C20	YW5X103K5VB	Ceramic	0.01 μ F	TP1,2	YWRCT2125TPV	Test- Pin	
C21,22	YW5F104Z2VB	Ceramic	0.1 μ F	ACCESSORY PARTS/PACKAGING PARTS			
C23	YW5X103K5VB	Ceramic	0.01 μ F				
C24	ECST0JY335	Tantalum	3.3 μ F 6.3V	CN110	YFE4191J100	ALC Lens Connector	
C25	YW5CH200J5VB	Ceramic	20 pF	M51	YVW8QA3452AN	Operating Instructions	
C26	YW5CH430J5VB	Ceramic	43 pF	M52	YWT050803	Polyethylene Bag	
C27	YW5CH470J5VB	Ceramic	47 pF	M53	YWT20X35C03	Polyethylene Bag	
C29	YW5CH120J5VB	Ceramic	12 pF	M55	YVW9CA2432AN	Packaging Assy for WV-CP610/A	
C39	YWE212F105ZT	Ceramic	1 μ F		YVW9CA2430AN	Packaging Assy for WV-CP610/B	
C40-42	YW5F104Z2VB	Ceramic	0.1 μ F		YVW9CA2431AN	Packaging Assy for WV-CP610/G	
C43	YWE212F105ZT	Ceramic	1 μ F		YVW8FA0201A4	Packaging Label for WV-CP610/B	
C44,45	YW5F104Z2VB	Ceramic	0.1 μ F		YVW7SA1450A4	Label for WV-CP610/B,G	
C46	TAJA105M016	Tantalum	1 μ F 16V	M56			
C47	ECST1AY225ZR	Tantalum	2.2 μ F 10V	M57			
C48	YW5F104Z2VB	Ceramic	0.1 μ F	EXTENTION BOARD			
C49	ECST1AX106ZR	Tantalum	10 μ F 10V				
C50	ECST1AY225ZR	Tantalum	2.2 μ F 10V	EXB01	YVW0EA0326AN	Drive/Digital Extention Board	
C51	ECST1AY335ZR	Tantalum	3.3 μ F 10V				
C52-54	ECST1AX106ZR	Tantalum	10 μ F 10V				
C61	ECST1AX106ZR	Tantalum	10 μ F 10V				
C63	YW5CH470J5VB	Ceramic	47 pF				
C64	YW5F104Z2VB	Ceramic	0.1 μ F				
C65	YWE212F105ZT	Ceramic	1 μ F				

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
COLOUR CCTV CAMERA WV-CP612E			ALC BOARD		
MISCELLANEOUS			PCB2 (RTL) L1 L2,3 L4 CN1	YWVKYCP61E5A YWNL251R8J YWNL252R2J YWNL251R8J AXN420330P	Printed Circuit Board Assy Coil 1.8 μ H Coil 2.2 μ H Coil 1.8 μ H 20-pin Connector
FB101 CN101,102 E102 M1 M2	YWCP210J1B YWP2270 YW840522 YWBC-2B YWV1EB0127A4	Flexible Board BNC Connector Insulator Fuse Cover Body Cap Special Screw	CN2 CN3	YFD4151N200 YW525881890	4-pin ALC Connector 18-pin Connector
M3 M4 M5 M6 M7	YWV3FA0178A3 YWV5BA0128A2 YVVAKA1346AN YWV4JA0479A4 YWV2CA0386A4	FB Control Ring Front Escutcheon Head Optical Assy Spring Plate Hold Plate for Spring Plate	CONNECTOR BOARD		
M8 M9 M10 M11 M12	YWV4JA0262A4 YWV2SA2640A3 YVV1EA0128A4 YWV5WE1584A4 YWV5EA1363A2	Spring Mounting Angle Special Screw Front Panel Upper Cover	PCB3 (RTL) CN1	YVVKBCP62P4A YW525882090	Printed Circuit Board Assy 20-pin Connector
M13 M16 M17 M18 M19	YWV2HA1168A3 YWV2KA0874A2 YWV2TB0333A3 YWV1KA0128A4 YWV5BA0121A3	Shield Parts Bottom Cover Mounting Bracket Washer Rear Escutcheon	REAR BOARD		
M20 M21 M23 M24 M25	YWV2SA2642A3 YWV5WA1680A4 YWV5RA0438A3 YWV7MA0443A4 YWV1KA0181A4	Mounting Angle Rear Panel Knob for Rear Switch Fuse Sub Label Washer	PCB4 (RTL) IC7 Q2,3 D1,2 D3 R1	YVVKCCP62P4A YWMB3775PFV 2SB766A-QR YW5C80206L LN28RPPN ERJ3GEYJ751	Printed Circuit Board Assy IC Transistor Diode LED Carbon 750 ohms 1/16W
M26 M30 M31 M32 M33	YWV2CA0390A4 YWV7DA0402A4 YFV2NA0084A4 YWV2PA0615A4 YWV7SA2098A4	Hold Plate Heat Sink Spacer Insulator Sheet Model Label	R7 R8 R134 R135 R136	ERJ3GEYJ103 ERJ3GEYJ750 ERJ3GEYJ333 ERJ3GEYJ561 ERJ3GEYJ682	Carbon 10K ohms 1/16W Carbon 750 ohms 1/16W Carbon 33K ohms 1/16W Carbon 560 ohms 1/16W Carbon 6.8K ohms 1/16W
M35 M36 M39 M41 M42	YWV7MA0412A4 YWV7QA3487A4 YWV5GA0171A4 YWTC200T2X4 YWTC500T2X2	Safety Label Main Label Cap for Switch Insulator Sheet A Insulator Sheet B	R138 R139 R140 R141 R142	ERJ3GEYJ243 ERJ3GEYJ333 ERJ6GEYJ102 ERJ3GEYJ333 ERJ3GEYJ561	Carbon 24K ohms 1/16W Carbon 33K ohms 1/16W Carbon 1K ohms 1/10W Carbon 33K ohms 1/16W Carbon 560 ohms 1/16W
			R168 R169 R170 R171 R184	ERJ3RHD622V ERJ3RHD183V ERJ3RHD682V ERJ3RHD392V ERJ6GEYJ102	Metal 6.8K ohms 1/16W Metal 18K ohms 1/16W Metal 6.8K ohms 1/16W Metal 3.3K ohms 1/16W Carbon 1K ohms 1/10W
			C1 C2 C37 C38 C39,40	YW5F104Z2VB YF400222XKT YW5CH331J5VB TAJA105M016 YW5F104Z2VB	Ceramic 0.1 μ F Ceramic 220 pF Ceramic 33 pF Electrolytic 1 μ F 16V Ceramic 0.1 μ F
			C41 C42 C68 C69 C70	TAJA105M016 YW5X103K5VB ECST0JY475 ECGC0JB330R ECGC1BA4R7R	Electrolytic 1 μ F 16V Ceramic 0.01 μ F Electrolytic 4.7 μ F 6.3V Semiconductor 33 μ F 6.3V Semiconductor 4.7 μ F

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
C71	ECST0JY685	Tantalum 6.8 μ F 6.3V	Q9,15	2SC4617	Transistor
C72	ECGC0JB330R	Semiconductor 33 μ F 6.3V	Q17,18	2SB1218A-QR	Transistor
C97	YW5F104Z2VB	Ceramic 0.1 μ F	Q19	2SA1774	Transistor
L3,4	YWCDR63220MC	Coil 22 μ H	Q22	2SC4617	Transistor
L16	YWCDR63220MC	Coil 22 μ H	Q23	UMZ1	Transistor
SW1-5	EVQPJX05M	Push Switch	Q24	2SA1774	Transistor
SW6	YWKSD025	Slide Switch	Q26,27	2SC4617	Transistor
CN2	YW533910890	89-pin Connector	Q28	2SA1774	Transistor
E1	YWT6746	Terminal	Q29	2SD1819-QR5	Transistor
M38	YWLH53	Spacer	Q30	2SC4617	Transistor
VP BOARD			Q33,34	2SC4619	Transistor
PCB5 (RTL)	YVVKYCP62P3A	Printed Circuit Board Assy	Q35	2SC4617	Transistor
IC1	AN7809R	IC	Q36,37	2SC4619	Transistor
D2,3	MA736	Diode	Q38	2SC4617	Transistor
R1	ERJ3GEY0R00	Carbon 0 ohms 1/16W	D3	YWDA121	Diode
C1	YW5F104Z2VB	Ceramic 0.1 μ F	D10,11	YWHVU359TRF	Diode
C6,9	ECA1CFQ560	Electrolytic 56 μ F 16V	D14,15	YWDA121	Diode
F1	SSFR800F003	Current Fuse	D16-19	MA726	Diode
E1	YFN074A	Insulator	D20	MA8091M	Diode
CN1	YW526630810	8-pin Connector	D23	MA112	Diode
M25	YVW1KA0181A4	Washer	R252	L311F202J402	Thermistor
M27	YVW7DA0382A4	Heat Sink	R14	ERJ3GEY0R00	Carbon 0 ohms 1/16W
			R20	ERJ3GEYJ102	Carbon 1K ohms 1/16W
			R21	ERJ3GEYJ202	Carbon 2K ohms 1/16W
			R26	ERJ3GEYJ102	Carbon 1K ohms 1/16W
			R28	ERJ3GEYJ104	Carbon 100K ohms 1/16W
			R29	ERJ3GEYJ432	Carbon 4.3K ohms 1/16W
			R31	ERJ3GEYJ153	Carbon 15K ohms 1/16W
			R32	ERJ3GEYJ103	Carbon 10K ohms 1/16W
			R33	ERJ3GEYJ154	Carbon 150K ohms 1/16W
			R34,35	ERJ3GEYJ104	Carbon 100K ohms 1/16W
			R36,37	ERJ3GEYJ560	Carbon 56 ohms 1/16W
			R38,41	ERJ3GEY0R00	Carbon 0 ohms 1/16W
			R44,46	ERJ3GEY0R00	Carbon 0 ohms 1/16W
			R47	ERJ3GEYJ151	Carbon 150 ohms 1/16W
			R52	ERJ3GEYJ102	Carbon 1K ohms 1/16W
			R54	ERJ3GEY0R00	Carbon 0 ohms 1/16W
			R55	ERJ3GEYJ331	Carbon 330 ohms 1/16W
			R56,58	ERJ3GEY0R00	Carbon 0 ohms 1/16W
			R59,60	ERJ3GEYJ562	Carbon 5.6K ohms 1/16W
DRIVE BOARD			R63	ERJ3GEY0R00	Carbon 0 ohms 1/16W
PCB6 (RTL)	YVVKBCP62E2A	Printed Circuit Board Assy	R64	ERJ3GEYJ103	Carbon 10K ohms 1/16W
IC1	AN2018S	IC	R66	ERJ3GEYJ102	Carbon 1K ohms 1/16W
IC2	YWTC74AT04F	IC	R68	ERJ3GEYJ103	Carbon 10K ohms 1/16W
IC3	YWC5023068E1	IC	R69	ERJ3GEYJ105	Carbon 1M ohms 1/16W
IC4	YWCXD2404R	IC	R72	YF2116222GT	Carbon 2.2K ohms 1/10W
IC6	AN2034FAP	IC	R73	ERJ3GEYJ101	Carbon 100 ohms 1/16W
IC8	YWC5020074E1	IC	R75,80	ERJ3GEYJ102	Carbon 1K ohms 1/16W
IC10	MN3112SA	IC	R81	ERJ3GEYJ221	Carbon 220 ohms 1/16W
IC13	YWTC74VC04FS	IC	R90	ERJ3GEYJ202	Carbon 2K ohms 1/16W
IC15	YWNJM2406F	IC	R93	ERJ3GEYJ472	Carbon 4.7K ohms 1/16W
Q1	2SK106945	FET	R97	ERJ3GEY0R00	Carbon 0 ohms 1/16W
			R99	ERJ3GEYJ101	Carbon 100 ohms 1/16W
			R100,107	ERJ3GEY0R00	Carbon 0 ohms 1/16W
			R110	ERJ3GEY0R00	Carbon 0 ohms 1/16W

REF.NO.	PART NO.	DESCRIPTION		REF.NO.	PART NO.	DESCRIPTION	
R121,123	ERJ3GEYJ102	Carbon	1K ohms 1/16W	R260	ERJ3GEY0R00	Carbon	0 ohms 1/16W
R129,131	ERJ3GEY0R00	Carbon	0 ohms 1/16W	R261	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R132,144	ERJ3GEY0R00	Carbon	0 ohms 1/16W	R262	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R145	ERJ3GEY0R00	Carbon	0 ohms 1/16W	R263	ERJ3GEYJ203	Carbon	20K ohms 1/16W
R146	ERJ3GEYJ102	Carbon	1K ohms 1/16W	R264-268	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R147	ERJ3GEY0R00	Carbon	0 ohms 1/16W	R269	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R153	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W	R270	ERJ3GEYJ823	Carbon	82K ohms 1/16W
R157-159	ERJ3GEY0R00	Carbon	0 ohms 1/16W	R271	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R160	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W	R272,273	ERJ3GEYJ100	Carbon	10 ohms 1/16W
R161	ERJ3GEYJ302	Carbon	3K ohms 1/16W	R274	ERJ6GEY0R00	Carbon	1 ohms 1/10W
R162	ERJ3GEYJ153	Carbon	15K ohms 1/16W	C3	YW5X103K5VB	Ceramic	0.01 μ F
R163	ERJ3GEYJ751	Carbon	750 ohms 1/16W	C6	YW5X102K5VB	Ceramic	1000 pF
R167	ERJ14YJ750	Carbon	75 ohms 1/16W	C7,8	YW5F104Z2VB	Ceramic	0.1 μ F
R175,176	ERJ3RHD102V	Metal	1K ohms 1/16W	C9	YW5F473Z2VB	Ceramic	0.047 μ F
R183	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C10	YWE212F105ZT	Ceramic	1 μ F
R186-188	ERJ3GEYJ100	Carbon	10 ohms 1/16W	C11	YW5X222K5VB	Ceramic	2200 pF
R189	ERJ3GEYJ821	Carbon	820 ohms 1/16W	C15	YW5CH101J5VB	Ceramic	100 pF
R190,191	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C16	YW5CH201J5VB	Ceramic	200 pF
R196	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C17	YW5X103K5VB	Ceramic	0.01 μ F
R197	ERJ3GEYJ162	Carbon	1.6K ohms 1/16W	C18	YW5F104Z2VB	Ceramic	0.1 μ F
R198	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C19	YW5CH201J5VB	Ceramic	200 pF
R201	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C20-22	YW5F104Z2VB	Ceramic	0.1 μ F
R202	ERJ3GEYJ432	Carbon	4.3K ohms 1/16W	C23	YW5X103K5VB	Ceramic	0.01 μ F
R203	ERJ3GEYJ221	Carbon	220 ohms 1/16W	C25	TAJA105M016	Tantalum	1 μ F 16V
R204,205	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C27	YW5CH180J5VB	Ceramic	18 pF
R206	ERJ3GEYJ104	Carbon	100K ohms 1/16W	C28	YW5F104Z2VB	Ceramic	0.1 μ F
R207	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C29	YF400104FZT	Ceramic	0.1 μ F
R209	ERJ3GEYJ163	Carbon	16K ohms 1/16W	C43	YW5F104Z2VB	Ceramic	0.1 μ F
R210	ERJ3GEYJ473	Carbon	47K ohms 1/16W	C44,45	YF400104FZT	Ceramic	0.1 μ F
R211	ERJ3GEYJ104	Carbon	100K ohms 1/16W	C49	ECEV1CG220GP	Electrolytic	22 μ F 16V
R212	ERJ3GEYJ221	Carbon	220 ohms 1/16W	C50	YWE212F105ZT	Ceramic	1 μ F
R213-216	ERJ3GEYJ220	Carbon	22 ohms 1/16W	C51	ECST1AY225ZR	Tantalum	2.2 μ F 10V
R217	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C61	ECEV1HGE3R3	Electrolysis	3.3 μ F 50V
R218	ERJ3GEYJ363	Carbon	36K ohms 1/16W	C75	ECEV0JG101GP	Electrolytic	100 μ F 6.3V
R219	ERJ3GEYJ104	Carbon	100K ohms 1/16W	C76	ECEV1CG220GP	Electrolytic	22 μ F 16V
R220	ERJ3GEYJ101	Carbon	100 ohms 1/16W	C78	YF400332XKT	Ceramic	
R221,222	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W	C80	ECST1AD476ZR	Tantalum	47 μ F 10V
R223	ERJ3GEYJ101	Carbon	100 ohms 1/16W	C81,82	ECST1AX106ZR	Tantalum	10 μ F 10V
R224	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C84	YWE212F105ZT	Ceramic	1 μ F
R225,226	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C85,87	ECST1AD476ZR	Tantalum	47 μ F 10V
R228,229	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C88	TAJA105M016	Tantalum	1 μ F 16V
R238	ERJ3GEYJ561	Carbon	560 ohms 1/16W	C89,90	ECST1AX106ZR	Tantalum	10 μ F 10V
R240	ERJ3GEYJ331	Carbon	330 ohms 1/16W	C92	ECST1AX106ZR	Tantalum	10 μ F 10V
R243	ERJ3GEYJ821	Carbon	820 ohms 1/16W	C93	ECST0JY106ZR	Tantalum	10 μ F 6.3V
R244	ERJ3GEYJ182	Carbon	1.8K ohms 1/16W	C94,95	YW5F104Z2VB	Ceramic	0.1 μ F
R245	ERJ3GEYJ821	Carbon	820 ohms 1/16W	C98,99	YW5X102K5VB	Ceramic	100 pF
R246	ERJ3GEYJ302	Carbon	3K ohms 1/16W	C101,102	YF400104FZT	Ceramic	0.1 μ F
R247	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W	C109	YW5F104Z2VB	Ceramic	0.1 μ F
R248,249	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W	C110	YWE212F105ZT	Ceramic	1 μ F
R251	ERJ3GEYJ362	Carbon	3.6K ohms 1/16W	C111	ECGC1CB4R7R	Semiconductor	4.7 μ F 16V
R253	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C112	ECST1VY224Z	Tantalum	0.22 μ F 35V
R255,256	ERJ3GEYJ132	Carbon	1.3K ohms 1/16W	C113	ECST1VY104	Tantalum	0.1 μ F 35V
R257	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C114,115	ECEV1CV100	Electrolytic	10 μ F 16V
R258	ERJ3GEYJ202	Carbon	2K ohms 1/16W	C116,117	ECEV1CG100GR	Electrolytic	10 μ F 16V
R259	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C119	ECEV1CV100	Electrolytic	10 μ F 16V

REF.NO.	PART NO.	DESCRIPTION		REF.NO.	PART NO.	DESCRIPTION	
C120,121	ECEV1CG100GR	Electrolytic	10 μ F 16V	IC8	YWTMP90C3427	IC	
C124	ECEV1VG220GP	Electrolytic	22 μ F 35V	IC9	YWCF45107PGJ	IC	
C125	ECEV1CG220GP	Electrolytic	22 μ F 16V	IC10	YWAMSY10G	IC	
C126	YW5F104Z2VB	Ceramic	0.1 μ F	IC11	YWUPC664GS	IC	
C127	YWE212F105ZT	Ceramic	1 μ F	IC12	YWM60071FP	IC	
C128	TAJA105M016	Tantalum	1 μ F 16V	IC13	YWL7A1220	IC	
C129	YWE212F105ZT	Ceramic	1 μ F	IC14-16	MN47925	IC	
C130	YW5F104Z2VB	Ceramic	0.1 μ F	IC17	YWL7A1219	IC	
C131	ECST1AX106ZR	Tantalum	10 μ F 10V	IC18	MB90077PF104	IC	
C132	YW5CH471J5VB	Ceramic	470 pF	IC19	YWTC4569F	IC	
C133	ECEV1CG100GR	Electrolytic	10 μ F 16V	IC20	YWTC7SU04FL	IC	
C134	YW5CH471J5VB	Ceramic	470 pF	IC23	YWTC7SU04FUL	IC	
C135	YWE212F105ZT	Ceramic	1 μ F	Q1-4	2SK106945	FET	
C139	YW5F104Z2VB	Ceramic	0.1 μ F	Q5	2SC4617	Transistor	
C140,141	YW5X471K5VB	Ceramic	470 pF	Q9,10	2SC4619	Transistor	
C142-144	YW5F104Z2VB	Ceramic	0.1 μ F	Q11	2SA1774	Transistor	
C145,146	YW5CH510J5VB	Ceramic	51 pF	Q12,13	2SC4619	Transistor	
C147	YW5F104Z2VB	Ceramic	0.1 μ F	D1	MA729	Diode	
L1	EIC4EJ011E	Coil		D2	YWDA121	Diode	
L8	ELJSC330KB	Coil	33 μ H	D3-8	YWHVU359TRF	Diode	
L9-11	ELJFC8R2MF	Coil	8.2 μ H	D9-11	YWDA221	Diode	
L13	ELJFC8R2MF	Coil	8.2 μ H	R3,4	ERJ3GEY0R00	Carbon	0 ohms 1/16W
L14	ELJSC330KB	Coil	33 μ H	R9	ERJ3GEY0R00	Carbon	0 ohms 1/16W
L17,19	ELJFC8R2MF	Coil	8.2 μ H	R10	ERJ3GEYJ102	Carbon	1K ohms 1/16W
L21,22	ELJSC101KB	Coil	100 μ H	R11,13	ERJ3GEY0R00	Carbon	0 ohms 1/16W
L23	ELJFB101KB	Coil	100 μ H	R14-18	ERJ3GEY0R00	Carbon	0 ohms 1/16W
CF1	YW4F57374	Filter		R20	ERJ3GEY0R00	Carbon	0 ohms 1/16W
CF2	YWNL4532S4R4	Filter		R27	ERJ3GEYJ511	Carbon	510 ohms 1/16W
CF4	ELB4B532	Filter		R29	ERJ3GEYJ102	Carbon	1K ohms 1/16W
CF5,6	YWH50ACB20T	Filter		R30	ERJ3GEYJ474	Carbon	470K ohms 1/16W
CF7	NFM41R00C221	Filter		R33	ERJ3GEYJ102	Carbon	1K ohms 1/16W
CF8	EIK4EW020T	Filter		R34	ERJ3GEYJ103	Carbon	10K ohms 1/16W
CF9	YWNL4532S4R4	Filter		R35	ERJ3GEYJ221	Carbon	220 ohms 1/16W
CN1	YW533071891	18-pin Connector		R36	ERJ3GEYJ104	Carbon	100K ohms 1/16W
CN2,3	YW31756316	6-pin Connector		R38	ERJ3GEYJ221	Carbon	220 ohms 1/16W
CN4,5	YW21775946	26-pin Connector		R39	ERJ3GEYJ823	Carbon	82K ohms 1/16W
CN6	YW533072091	20-pin Connector		R40	ERJ3GEYJ105	Carbon	1M ohms 1/16W
DIGITAL BOARD				R41	ERJ3GEY0R00	Carbon	0 ohms 1/16W
PCB7 (RTL)	YWVKCCP62E2A	Printed Circuit Board Assy		R44	ERJ3GEYJ103	Carbon	10K ohms 1/16W
IC1	MN6576	IC		R46	ERJ3GEYJ221	Carbon	220 ohms 1/16W
IC2	MN13821	IC		R48,49	ERJ3GEY0R00	Carbon	0 ohms 1/16W
IC3	MN673211M2U	IC		R51	ERJ3GEY0R00	Carbon	0 ohms 1/16W
IC4	YWB9020FE1	IC		R52	ERJ3GEYJ103	Carbon	10K ohms 1/16W
IC5	YWMB88346BEF	IC		R53	ERJ3GEYJ221	Carbon	220 ohms 1/16W
				R54	ERJ3GEYJ102	Carbon	1K ohms 1/16W
				R55	ERJ3GEYJ162	Carbon	1.6K ohms 1/16W
				R56	ERJ3GEYJ103	Carbon	10K ohms 1/16W
				R58	ERJ3GEYJ221	Carbon	220 ohms 1/16W
				R60,61	ERJ3GEYJ102	Carbon	1K ohms 1/16W
				R62	ERJ3GEYJ105	Carbon	1M ohms 1/16W
				R63	ERJ3GEYJ273	Carbon	27K ohms 1/16W
				R64	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W
				R65	ERJ3GEYJ103	Carbon	10K ohms 1/16W
				R67	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W
				R68	ERJ3GEYJ273	Carbon	27K ohms 1/16W

REF.NO.	PART NO.	DESCRIPTION		REF.NO.	PART NO.	DESCRIPTION	
R69	ERJ3GEYJ103	Carbon	10K ohms 1/16W	R550	ERJ3RHD181V	Metal	180 ohms 1/16W
R70	ERJ3GEYJ824	Carbon	820K ohms 1/16W	R551	ERJ3GEYJ333	Carbon	33K ohms 1/16W
R71	ERJ3GEYJ273	Carbon	27K ohms 1/16W	R552	ERJ3GEY0R00	Carbon	0 ohms 1/16W
R72	ERJ3GEYJ752	Carbon	7.5K ohms 1/16W	R553	ERJ3GEYJ133	Carbon	13K ohms 1/16W
R73	ERJ3GEYJ273	Carbon	27K ohms 1/16W	R554	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R74	ERJ3GEYJ302	Carbon	3K ohms 1/16W	R555	ERJ3GEYJ101	Carbon	100 ohms 1/16W
R75	ERJ3GEYJ105	Carbon	1M ohms 1/16W	R556	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R76	ERJ3GEY0R00	Carbon	0 ohms 1/16W	R557	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R77	ERJ3GEYJ102	Carbon	1K ohms 1/16W	R558	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R78,79	ERJ3GEYJ103	Carbon	10K ohms 1/16W	R559	ERJ3GEYJ152	Carbon	1.5K ohms 1/16W
R80-82	ERJ3GEY0R00	Carbon	0 ohms 1/16W	R560	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R83	ERJ3GEYJ105	Carbon	1M ohms 1/16W	R561	ERJ6GEY0R00	Carbon	0ohms 1/10W
R84	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W	R563	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R85	ERJ3GEYJ512	Carbon	5.1K ohms 1/16W	R566	ERJ6GEY0R00	Carbon	1 ohms 1/10W
R86	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W	C1	ECST1AX106ZR	Tantalum	10 μ F
R89,91	ERJ3GEYJ682	Carbon	6.8K ohms 1/16W	C2,4	YW5F104Z2VB	Ceramic	0.1 μ F
R95,96	ERJ3GEYJ162	Carbon	1.6K ohms 1/16W	C6,12	YW5F104Z2VB	Ceramic	0.1 μ F
R106	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C14	YW5F104Z2VB	Ceramic	0.1 μ F
R107	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C15	YW5CH820J5VB	Ceramic	82 pF
R108	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C16	YW5F104Z2VB	Ceramic	0.1 μ F
R109	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C17	YW5CH820J5VB	Ceramic	82 pF
R111	ERJ3GEYJ333	Carbon	33K ohms 1/16W	C18	YW5CH360J5VB	Ceramic	36 pF
R112	ERJ3GEYJ561	Carbon	560 ohms 1/16W	C19	YW5CH330J5VB	Ceramic	33 pF
R113	ERJ3GEYJ101	Carbon	100 ohms 1/16W	C20	YW5X103K5VB	Ceramic	0.01 μ F
R114	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C21,22	YW5F104Z2VB	Ceramic	0.1 μ F
R115	ERJ3GEYJ361	Carbon	360 ohms 1/16W	C23	YW5X103K5VB	Ceramic	0.01 μ F
R116	ERJ3GEYJ202	Carbon	2K ohms 1/16W	C24	ECST0JY335	Tantalum	33 μ F 6.3V
R117-119	ERJ3GEYJ101	Carbon	100 ohms 1/16W	C25	YW5CH200J5VB	Ceramic	20 pF
R120,121	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W	C26	YW5CH430J5VB	Ceramic	43 pF
R122-129	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C27	YW5CH470J5VB	Ceramic	47 pF
R130	ERJ3GEYJ471	Carbon	470 ohms 1/16W	C29	YW5CH120J5VB	Ceramic	12 pF
R133	ERJ3GEYJ512	Carbon	5.1K ohms 1/16W	C39	YWE212F105ZT	Ceramic	1 μ F
R134-136	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C40-42	YW5F104Z2VB	Ceramic	0.1 μ F
R137,138	ERJ6GEY0R00	Carbon	1 ohms 1/10W	C43	YWE212F105ZT	Ceramic	1 μ F
R140	ERJ3GEYJ433	Carbon	43K ohms 1/16W	C44,45	YW5F104Z2VB	Ceramic	0.1 μ F
R142	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C46	TAJA105M016	Tantalum	1 μ F 16V
R143	ERJ3GEYJ623	Carbon	62K ohms 1/16W	C47	ECST1AY225ZR	Tantalum	22 μ F 10V
R144	ERJ3GEYJ124	Carbon	120K ohms 1/16W	C48	YW5F104Z2VB	Ceramic	0.1 μ F
R145	ERJ3GEYJ683	Carbon	68K ohms 1/16W	C49	ECST1AX106ZR	Tantalum	10 μ F 10V
R500,502	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C50	ECST1AY225ZR	Tantalum	22 μ F 10V
R504,505	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C51	ECST1AY335ZR	Tantalum	33 μ F 10V
R510	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W	C52-54	ECST1AX106ZR	Tantalum	10 μ F 10V
R511	ERJ3GEYJ221	Carbon	220 ohms 1/16W	C61	ECST1AX106ZR	Tantalum	10 μ F 10V
R514,516	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C63	YW5CH470J5VB	Ceramic	47 pF
R517,519	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C65	YWE212F105ZT	Ceramic	1 μ F
R524-530	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C66,67	YW5F104Z2VB	Ceramic	0.1 μ F
R536	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C68,69	YWE212F105ZT	Ceramic	1 μ F
R538	ERJ3GEYJ204	Carbon	200K ohms 1/16W	C70	YW5X103K5VB	Ceramic	0.01 μ F
R539	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C71	YW5CH470J5VB	Ceramic	47 pF
R540	ERJ3GEYJ822	Carbon	8.2K ohms 1/16W	C500-510	YW5F104Z2VB	Ceramic	0.1 μ F
R541	ERJ3GEYJ562	Carbon	5.6K ohms 1/16W	C511	ECST1AX106ZR	Tantalum	10 μ F 10V
R542	ERJ3GEYJ153	Carbon	15K ohms 1/16W	C512,517	YW5F104Z2VB	Ceramic	0.1 μ F
R543,544	ERJ3GEYJ333	Carbon	33K ohms 1/16W	C519-522	YW5F104Z2VB	Ceramic	0.1 μ F
R545	ERJ3GEYJ123	Carbon	12K ohms 1/16W	C528	YW5CH151J5VB	Ceramic	150 pF
R546,547	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W	C529	YW5CH101J5VB	Ceramic	100 pF

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
C530,531	YW5F104Z2VB	Ceramic 0.1 μ F	COLOUR CCTV CAMERA WV-CP614E		
C532	YWE212F105ZT	Ceramic 1 μ F	MISCELLANEOUS		
C533	YW5F104Z2VB	Ceramic 0.1 μ F	FB101	YWCP210J1B	Flexible Board
C535	ECST0JY106ZR	Tantalum 10 μ F 10V	CN101,102	YWP2270	BNC Connector
C536,539	YW5F104Z2VB	Ceramic 0.1 μ F	E102	YW840522	Insulator Fuse Cover
C540,541	YW5F104Z2VB	Ceramic 0.1 μ F	M1	YWBC-2B	Body Cap
C542,543	ECST1AX106ZR	Tantalum 10 μ F 10V	M2	YVV1EB0127A4	Special Screw
C546	YW5CH100J5VB	Ceramic 10 pF	M3	YVV3FA0178A3	FB Control Ring
L1	EIC4EJ012E	Coil	M4	YVV5BA0128A2	Front Escutcheon
L10	ELJFC8R2MF	Coil 8.2 μ H	M5	YVVAKA1346AN	Head Optical Assy
L13	ELJFC1R0MF	Coil 1 μ H	M6	YVV4JA0479A4	Spring Plate
L14	ELJFC2R2MF	Coil 2.2 μ H	M7	YVV2CA0386A4	Hold Plate for Spring Plate
L15	ELJFC8R2MF	Coil 8.2 μ H	M8	YVV4JA0262A4	Spring
L16	F2012E8R2KT	Coil 8.2 μ H	M9	YVV2SA2640A3	Mounting Angle
L17	ELJFB101KB	Coil 100 μ H	M10	YVV1EA0128A4	Special Screw
L19	ELJFC8R2MF	Coil 8.2 μ H	M11	YVV5WE1584A4	Front Panel
X1	EF0V8004E0A	Crystal Oscillator	M12	YVV5EA1363A2	Upper Cover
X2	YWDX14R187	Crystal Oscillator	M13	YVV2HA1168A3	Shield Parts
X3	YWDX17R734	Crystal Oscillator	M16	YVV2KA0874A2	Bottom Cover
CF1	YWNL4532S4R4	Filter	M17	YVV2TB0333A3	Mounting Bracket
CN1,2	YW51763136	Connector	M18	YVV1KA0128A4	Washer
E1	YWL3071A04A5	Internal Wire	M19	YVV5BA0121A3	Rear Escutcheon
TP1,2	YWRCT2125TPV	Test -Pin	M20	YVV2SA2642A3	Mounting Angle
ACCESSORY PARTS/PACKAGING PARTS			M21	YVV5WA1679A4	Rear Panel
CN110	YFE4191J100	ALC Connector	M23	YVV5RA0438A3	Knob for Rear Switch
M51	YVV8QA3452AN	Operating Instructions	M24	YVV7MA0443A4	Fuse Sub Label
M52	YWT050803	Polyethylene Bag	M25	YVV1KA0181A4	Washer
M53	YWT20X35C03	Polyethylene Bag	M30	YVV7DA0401A4	Heat Sink
M55	YVV9CA2434AN	Packaging Assy	M31	YFV2NA0084A4	Spacer
M57	YVV7SA1450A4	Label	M32	YVV2PA0615A4	Insulator Sheet
EXTENTION BOARD			M33	YVV7SA2097A4	Label
EXB01	YVV0EA0326AN	Drive/Digital Extention Board	M35	YVV7MA0412A4	Safety Label
			M36	YVV7QA3486A4	Main Label
			M39	YVV5GA0171A4	Cap for Switch
			M41	YWTC200T2X4	Insulator Sheet A
			M42	YWTC500T2X2	Insulator Sheet B

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
ALC BOARD					
PCB2 (RTL)	YWVKYCP61E5A	Printed Circuit Board Assy	C38	TAJA105M016	Electrolytic 1 μ F 16V
L1	YWNL251R8J	Coil 1.8 μ H	C39,40	YW5F104Z2VB	Ceramic 0.1 μ F
L2,3	YWNL252R2J	Coil 2.2 μ H	C41	TAJA105M016	Electrolytic 1 μ F 16V
L4	YWNL251R8J	Coil 1.8 μ H	C42	YW5X103K5VB	Ceramic 0.01 μ F
CN1	AXN420330P	20-pin Connector	C68	ECST0JY475	Electrolytic 4.7 μ F 6.3V
CN2	YFD4151N200	4-pin ALC Connector	C69	ECGC0JB330R	Semiconductor 33 μ F 6.3V
CN3	YW525881890	18-pin Connector	C70	ECGC1BA4R7R	Semiconductor 4.7 μ F 10V
			C71	ECST0JY685	Electrolytic 6.8 μ F 6.3V
			C72	ECGC0JB330R	Semiconductor 33 μ F 6.3V
			C97	YW5F104Z2VB	Ceramic 0.1 μ F
			C98	YF400104FZT	Ceramic 0.1 μ F
			L3,4	YWCDR63220MC	Coil
			L16	YWCDR63220MC	Coil
			SW1-5	EVQPJX05M	Push Switch
			SW6	YWKSD025	Slide Switch
			CN2	YW533910890	8-pin Connector
			E1	YWT6746	Terminal
			M38	YWLH53	Spacer
CONNECTOR BOARD			POWER BOARD		
PCB3 (RTL)	YWVKBCP64P4A	Printed Circuit Board Assy	PCB5 (RTL)	YWVKYBP14P3A	Printed Circuit Board Assy
CN1	YW525882090	20-pin Connector	IC1	YWFA53045	IC
			IC2	YWTA76431S	IC
			Q1	25K2182	FET
			Q2,3	YWP52501-1KA	Transistor
REAR BOARD			D1	YWD258A20	Diode
PCB4 (RTL)	YWVKCCP64P4A	Printed Circuit Board Assy	D2	YWDAN217	Diode
IC7	YWMB3775PFV	IC	D3	YWSC2012	Diode
Q2,3	25B766A-QR	Transistor	D4	YWDTZ5.1	Diode
D1,2	YWSC80206L	Diode	D8	YWSC80209R	Diode
D3	LN28RPPN	LED	VS1	ERZC07DK471U	ZNR
R1	ERJ3GEYJ751	Carbon 750 ohms 1/16W	R1	ERJ14YJ223	Carbon 22 ohms 1/10W
R7	ERJ3GEYJ103	Carbon 10K ohms 1/16W	R2	YF2116220JT	Carbon 180K ohms 1/10W
R8	ERJ3GEYJ750	Carbon 75 ohms 1/16W	R3	YF2116184JT	Carbon 22 ohms 1/10W
R134	ERJ3GEYJ333	Carbon 33K ohms 1/16W	R4	YF2116220JT	Carbon 15K ohms 1/10W
R135	ERJ3GEYJ561	Carbon 560 ohms 1/16W	R5	ERJ6GEYJ153	Carbon 2K ohms 1/10W
R136	ERJ3GEYJ682	Carbon 6.8K ohms 1/16W	R6	ERJ6GEYJ202	Carbon 22 ohms 1/10W
R137	ERJ3GEYJ182	Carbon 1.8K ohms 1/16W	R7	ERJ6GEYJ221	Carbon 0.33 ohms 1/4W
R138	ERJ3GEYJ163	Carbon 16K ohms 1/16W	R8	ERJ14YJR51	Carbon 1.1K ohms 1/4W
R139	ERJ3GEYJ333	Carbon 33K ohms 1/16W	R9,10	ERJ14YJ112	Carbon 1.1K ohms 1/10W
R140	ERJ6GEYJ182	Carbon 1.8K ohms 1/10W	R11	YF2116152JT	Carbon 47 ohms 1/10W
R141	ERJ3GEYJ163	Carbon 16K ohms 1/16W	R12	ERJ6GEYJ470	Carbon 1K ohms 1/10W
R142	ERJ3GEYJ561	Carbon 560 ohms 1/16W	R13	ERJ6GEYJ102	Metal 16 ohms
R168	ERJ3RHD622V	Metal 6.2K ohms 1/16W	R14	YWR1220P161D	Metal 16K ohms
R169	ERJ3RHD183V	Metal 18K ohms 1/16W	R15	YWR1220P163D	Carbon 68 ohms 1/10W
R170	ERJ3RHD682V	Metal 6.8K ohms 1/16W	R16	YF2116681JT	Metal 6.1K ohms
R171	ERJ3RHD392V	Metal 3.9K ohms 1/16W	R17	YWR1220P622D	Carbon 10K ohms 1/10W
R184,185	ERJ6GEYJ112	Carbon 1.1K ohms 1/10W	R18	ERJ6GEYJ103	Metal 12 ohms
C1	YW5F104Z2VB	Ceramic 0.1 μ F	R19	R1220P121D	Carbon 0 ohms 1/10W
C2,3	YF400222XKT	Ceramic 2200 pF	R30	ERJ6GEY0R00	
C37	YW5CH331J5VB	Ceramic 330 pF			

REF.NO.	PART NO.	DESCRIPTION		REF.NO.	PART NO.	DESCRIPTION	
C1	ECQV1H474JZ	Plastic	0.47 μ F 50V	D10,11	YWHVU359TRF	Diode	
C2,3	ECQM1103KZ	Plastic	0.01 μ F 50V	D14,15	YWDA121	Diode	
C5	ECEA1HGE331	Electrolytic	330 μ F 50V	D16-19	MA726	Diode	
C6	ECA1VFQ270	Electrolytic	27 μ F 35V	D20	MA8091M	Diode	
C7	YW400105FZ	Ceramic	1 μ F	D23	MA112	Diode	
C8	YF400681CHJT	Ceramic	680 μ F 50V	TH252	L311F202J402	Thermistor	
C9	YF400104FZT	Ceramic	0.1 μ F	R14	ERJ3GEY0R00	Carbon	0 ohms 1/16W
C10	ECEA1HGE3R3	Electrolytic	3.3 μ F 50V	R20	ERJ3GEYJ102	Carbon	1K ohms 1/16W
C11	YF400104FZT	Ceramic	0.1 μ F	R21	ERJ3GEYJ202	Carbon	2K ohms 1/16W
C12	YF400103XKT	Ceramic	0.01 μ F	R26	ERJ3GEYJ102	Carbon	1K ohms 1/16W
C13	YW400105FZ	Ceramic	1 μ F	R28	ERJ3GEYJ104	Carbon	100K ohms 1/16W
C14,15	ECA1CFQ271	Electrolytic	270 μ F 16V	R29	ERJ3GEYJ432	Carbon	4.3K ohms 1/16W
C16	ECA1CFQ121	Electrolytic	120 μ F 16V	R31	ERJ3GEYJ153	Carbon	15K ohms 1/16W
C17	YF400104FZT	Ceramic	0.1 μ F	R32	ERJ3GEYJ103	Carbon	10K ohms 1/16W
C18	ECQM1103KZ	Plastic	0.01 μ F	R33	ERJ3GEYJ154	Carbon	150K ohms 1/16W
C20	ECQV1H104JZ	Plastic	0.1 μ F 50V	R34,35	ERJ3GEYJ104	Carbon	100K ohms 1/16W
L1	YWSU10H07040	Coil		R36,37	ERJ3GEYJ560	Carbon	56 ohms 1/16W
L2	YWPC7330K	Coil	33 μ H	R38,41	ERJ3GEY0R00	Carbon	0 ohms 1/16W
T1	ETS22BC125AC	Power Transformer		R44,46	ERJ3GEY0R00	Carbon	0 ohms 1/16W
CN1	YW526630810	8-pin Connector		R47	ERJ3GEYJ151	Carbon	150 ohms 1/16W
F1	XBA2C20ET0A	Current Fuse	2A 250V	R52	ERJ3GEYJ102	Carbon	1K ohms 1/16W
E1,2	S-N5057	Fuse Holder		R54	ERJ3GEY0R00	Carbon	0 ohms 1/16W
M25	YWV1KA0181A4	Washer		R55	ERJ3GEYJ331	Carbon	330 ohms 1/16W
				R56,58	ERJ3GEY0R00	Carbon	0 ohms 1/16W
				R59,60	ERJ3GEYJ562	Carbon	5.6K ohms 1/16W
				R63	ERJ3GEY0R00	Carbon	0 ohms 1/16W
				R64	ERJ3GEYJ103	Carbon	10K ohms 1/16W
				R66	ERJ3GEYJ102	Carbon	1K ohms 1/16W
				R68	ERJ3GEYJ103	Carbon	10K ohms 1/16W
				R69	ERJ3GEYJ105	Carbon	1M ohms 1/16W
				R72	YF2116222GT	Carbon	2.2K ohms 1/10W
				R73	ERJ3GEYJ101	Carbon	100 ohms 1/16W
				R75,80	ERJ3GEYJ102	Carbon	1K ohms 1/16W
				R81	ERJ3GEYJ221	Carbon	220 ohms 1/16W
				R90	ERJ3GEYJ202	Carbon	2K ohms 1/16W
				R93	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W
				R97	ERJ3GEY0R00	Carbon	0 ohms 1/16W
				R99	ERJ3GEYJ101	Carbon	100 ohms 1/16W
				R100,107	ERJ3GEY0R00	Carbon	0 ohms 1/16W
				R110	ERJ3GEY0R00	Carbon	0 ohms 1/16W
				R121,123	ERJ3GEYJ102	Carbon	1K ohms 1/16W
				R129,131	ERJ3GEY0R00	Carbon	0 ohms 1/16W
				R132,144	ERJ3GEY0R00	Carbon	0 ohms 1/16W
				R145	ERJ3GEY0R00	Carbon	0 ohms 1/16W
				R146	ERJ3GEYJ102	Carbon	1K ohms 1/16W
				R147	ERJ3GEY0R00	Carbon	0 ohms 1/16W
				R153	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W
				R157-159	ERJ3GEY0R00	Carbon	0 ohms 1/16W
				R160	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W
				R161	ERJ3GEYJ302	Carbon	3K ohms 1/16W
				R162	ERJ3GEYJ153	Carbon	15K ohms 1/16W
				R163	ERJ3GEYJ751	Carbon	750 ohms 1/16W
				R167	ERJ14YJ750	Carbon	75 ohms 1/16W
				R175,176	ERJ3RHD102V	Metal	1K ohms 1/16W
				R183	ERJ3GEYJ102	Carbon	1K ohms 1/16W
DRIVE BOARD							
PCB6 (RTL)	YWVKBCP61E2A	Printed Circuit Board Assy					
IC1	AN20185	IC					
IC2	YWTC74AT04F	IC					
IC3	YWC5023068E1	IC					
IC4	YWCXD2404R	IC					
IC6	AN2034FAP	IC					
IC8	YWC5020074E1	IC					
IC10	MN31125A	IC					
IC13	YWTC74VC04FS	IC					
IC15	YWNJM2406F	IC					
Q1	2SK106945	FET					
Q9,15	2SC4617	Transistor					
Q17,18	2SB1218A-QR	Transistor					
Q19	2SA1774	Transistor					
Q22	2SC4617	Transistor					
Q23	UMZ1	Transistor					
Q24	2SA1774	Transistor					
Q26,27	2SC4617	Transistor					
Q28	2SA1774	Transistor					
Q29	2SD1819-QRS	Transistor					
Q30	2SC4617	Transistor					
Q33,34	2SC4619	Transistor					
Q35	2SC4617	Transistor					
Q36,37	2SC4619	Transistor					
Q38	2SC4617	Transistor					
D3	YWDA121	Diode					

REF.NO.	PART NO.	DESCRIPTION		REF.NO.	PART NO.	DESCRIPTION	
R186-188	ERJ3GEYJ100	Carbon	10 ohms 1/16W	C11	YW5X222K5VB	Ceramic	2200 pF
R189	ERJ3GEYJ821	Carbon	820 ohms 1/16W	C15	YW5CH101J5VB	Ceramic	100 pF
R190,191	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C16	YW5CH201J5VB	Ceramic	200 pF
R196	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C17	YW5X103K5VB	Ceramic	0.01 μ F
R197	ERJ3GEYJ162	Carbon	1.6K ohms 1/16W	C18	YW5F104Z2VB	Ceramic	0.1 μ F
R198	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C19	YW5CH201J5VB	Ceramic	200 pF
R201	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C20-22	YW5F104Z2VB	Ceramic	0.1 μ F
R202	ERJ3GEYJ432	Carbon	4.3K ohms 1/16W	C23	YW5X103K5VB	Ceramic	0.01 μ F
R203	ERJ3GEYJ221	Carbon	220 ohms 1/16W	C25	TAJA105M016	Tantalum	1 μ F 16V
R204,205	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C27	YW5CH180J5VB	Ceramic	18 pF
R206	ERJ3GEYJ104	Carbon	100K ohms 1/16W	C28	YW5F104Z2VB	Ceramic	0.1 μ F
R207	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C29	YF400104FZT	Ceramic	0.1 μ F
R209	ERJ3GEYJ163	Carbon	16K ohms 1/16W	C43	YW5F104Z2VB	Ceramic	0.1 μ F
R210	ERJ3GEYJ473	Carbon	47K ohms 1/16W	C44,45	YF400104FZT	Ceramic	0.1 μ F
R211	ERJ3GEYJ104	Carbon	100K ohms 1/16W	C49	ECEV1CG220GP	Tantalum	22 μ F 16V
R212	ERJ3GEYJ221	Carbon	220 ohms 1/16W	C50	YWE212F105ZT	Ceramic	1 μ F
R213-216	ERJ3GEYJ220	Carbon	22 ohms 1/16W	C51	ECST1AY225ZR	Tantalum	2.2 μ F 10V
R217	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C61	ECEV1HGE3R3	Electrolytic	3.3 μ F 50V
R218	ERJ3GEYJ363	Carbon	36K ohms 1/16W	C75	ECEV0JG101GP	Electrolytic	100 μ F 6.3V
R219	ERJ3GEYJ104	Carbon	100K ohms 1/16W	C76	ECEV1CG220GP	Electrolytic	22 μ F 16V
R220	ERJ3GEYJ101	Carbon	100 ohms 1/16W	C78	YF400332XKT	Ceramic	3300 pF
R221,222	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W	C80	ECST1AD476ZR	Tantalum	47 μ F 10V
R223	ERJ3GEYJ101	Carbon	100 ohms 1/16W	C81,82	ECST1AX106ZR	Tantalum	10 μ F 10V
R224	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C84	YWE212F105ZT	Ceramic	1 μ F
R225,226	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C85,87	ECST1AD476ZR	Tantalum	47 μ F 10V
R228,229	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C88	TAJA105M016	Tantalum	1 μ F 16V
R238	ERJ3GEYJ561	Carbon	560 ohms 1/16W	C89,90	ECST1AX106ZR	Tantalum	10 μ F 10V
R240	ERJ3GEYJ331	Carbon	330 ohms 1/16W	C92	ECST1AX106ZR	Tantalum	10 μ F 10V
R243	ERJ3GEYJ821	Carbon	820 ohms 1/16W	C93	ECST0JY106ZR	Tantalum	10 μ F 6.3V
R244	ERJ3GEYJ182	Carbon	1.8K ohms 1/16W	C94,95	YW5F104Z2VB	Ceramic	0.1 μ F
R245	ERJ3GEYJ821	Carbon	820 ohms 1/16W	C98,99	YW5X102K5VB	Ceramic	1000 pF
R246	ERJ3GEYJ302	Carbon	3K ohms 1/16W	C101,102	YF400104FZT	Ceramic	0.1 μ F
R247	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W	C109	YW5F104Z2VB	Ceramic	0.1 μ F
R248,249	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W	C110	YWE212F105ZT	Ceramic	1 μ F
R251	ERJ3GEYJ362	Carbon	3.6K ohms 1/16W	C111	ECGC1CB4R7R	Semiconductor	4.7 μ F 16V
R253	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C112	ECST1VY224Z	Tantalum	0.22 μ F 35V
R255,256	ERJ3GEYJ132	Carbon	1.3K ohms 1/16W	C113	ECST1VY104	Tantalum	0.1 μ F 35V
R257	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C114,115	ECEV1CV100	Electrolytic	10 μ F 10V
R258	ERJ3GEYJ202	Carbon	2K ohms 1/16W	C116,117	ECEV1CG100GR	Electrolytic	10 μ F 10V
R259	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C119	ECEV1CV100	Electrolytic	10 μ F 10V
R260	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C120,121	ECEV1CG100GR	Electrolytic	10 μ F 16V
R261	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C124	ECEV1VG220GP	Electrolytic	22 μ F 35V
R262	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C125	ECEV1CG220GP	Electrolytic	22 μ F 16V
R263	ERJ3GEYJ203	Carbon	20K ohms 1/16W	C126	YW5F104Z2VB	Ceramic	0.1 μ F
R264-268	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C127	YWE212F105ZT	Ceramic	1 μ F
R269	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C128	TAJA105M016	Tantalum	1 μ F 16V
R270	ERJ3GEYJ823	Carbon	82K ohms 1/16W	C129	YWE212F105ZT	Ceramic	1 μ F
R271	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C130	YW5F104Z2VB	Ceramic	0.1 μ F
R272,273	ERJ3GEYJ100	Carbon	10 ohms 1/16W	C131	ECST1AX106ZR	Tantalum	10 μ F 10V
R274	ERJ6GEY0R00	Carbon	1 ohms 1/10W	C132	YW5CH471J5VB	Ceramic	470 pF
C3	YW5X103K5VB	Ceramic	0.01 μ F	C133	ECEV1CG100GR	Electrolytic	10 μ F 16V
C6	YW5X102K5VB	Ceramic	1000 pF	C134	YW5CH471J5VB	Ceramic	470 pF
C7,8	YW5F104Z2VB	Ceramic	0.1 μ F	C135	YWE212F105ZT	Ceramic	1 μ F
C9	YW5F473Z2VB	Ceramic	0.047 μ F	C139	YW5F104Z2VB	Ceramic	0.1 μ F
C10	YWE212F105ZT	Ceramic	1 μ F	C140,141	YW5X471K5VB	Ceramic	470 pF

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
C142-144	YW5F104Z2VB	Ceramic 0.1 μ F	D9-11	YWDA221	Diode
C145,146	YW5CH510J5VB	Ceramic 51 pF	R3,4	ERJ3GEY0R00	Carbon 0 ohms 1/16W
C147	YW5F104Z2VB	Ceramic 0.1 μ F	R9	ERJ3GEY0R00	Carbon 0 ohms 1/16W
L1	EIC4EJ011E	Coil	R10	ERJ3GEYJ102	Carbon 1K ohms 1/16W
L8	ELJSC330KB	Coil 33 μ H	R11,13	ERJ3GEY0R00	Carbon 0 ohms 1/16W
L9-11	ELJFC8R2MF	Coil 8.2 μ H	R14-18	ERJ3GEY0R00	Carbon 0 ohms 1/16W
L13	ELJFC8R2MF	Coil 8.2 μ H	R20	ERJ3GEY0R00	Carbon 0 ohms 1/16W
L14	ELJSC330KB	Coil 33 μ H	R27	ERJ3GEYJ511	Carbon 510 ohms 1/16W
L17,19	ELJFC8R2MF	Coil 8.2 μ H	R29	ERJ3GEYJ102	Carbon 1K ohms 1/16W
L21,22	ELJSC101KB	Coil 100 μ H	R30	ERJ3GEYJ474	Carbon 470K ohms 1/16W
L23	ELJFB101KB	Coil 100 μ H	R33	ERJ3GEYJ102	Carbon 1K ohms 1/16W
CF1	YW4F57374	Filter	R34	ERJ3GEYJ103	Carbon 10K ohms 1/16W
CF2	YWNL4532S4R4	Filter	R35	ERJ3GEYJ221	Carbon 220 ohms 1/16W
CF4	ELB4B532	Filter	R36	ERJ3GEYJ104	Carbon 100K ohms 1/16W
CF5,6	YWH50ACB20T	Filter	R38	ERJ3GEYJ221	Carbon 220 ohms 1/16W
CF7	NFM41R00C221	Filter	R39	ERJ3GEYJ823	Carbon 82K ohms 1/16W
CF8	EIK4EW020T	Filter	R40	ERJ3GEYJ105	Carbon 1M ohms 1/16W
CF9	YWNL4532S4R4	Filter	R41	ERJ3GEY0R00	Carbon 0 ohms 1/16W
CN1	YW533071891	18-pin Connector	R44	ERJ3GEYJ103	Carbon 10K ohms 1/16W
CN2,3	YW31756316	6-pin Connector	R46	ERJ3GEYJ221	Carbon 220 ohms 1/16W
CN4,5	YW21775946	26-pin Connector	R48,49	ERJ3GEY0R00	Carbon 0 ohms 1/16W
CN6	YW533072091	20-pin Connector	R51	ERJ3GEY0R00	Carbon 0 ohms 1/16W
DIGITAL BOARD			R52	ERJ3GEYJ103	Carbon 10K ohms 1/16W
PCB7 (RTL)	YWVKCCP61E2A	Printed Circuit Board Assy	R53	ERJ3GEYJ221	Carbon 220 ohms 1/16W
IC1	MN6576	IC	R54	ERJ3GEYJ102	Carbon 1K ohms 1/16W
IC2	MN13821	IC	R55	ERJ3GEYJ162	Carbon 1.6K ohms 1/16W
IC3	MN673211M2U	IC	R56	ERJ3GEYJ103	Carbon 10K ohms 1/16W
IC4	YWBR9020FE1	IC	R58	ERJ3GEYJ221	Carbon 220 ohms 1/16W
IC5	YWMB88346BEF	IC	R60,61	ERJ3GEYJ102	Carbon 1K ohms 1/16W
IC8	YWTMP90C3427	IC	R62	ERJ3GEYJ105	Carbon 1M ohms 1/16W
IC9	YWCF45107PGJ	IC	R63	ERJ3GEYJ273	Carbon 27K ohms 1/16W
IC10	YWAMSY10G	IC	R64	ERJ3GEYJ472	Carbon 4.7K ohms 1/16W
IC11	YWUPC664GS	IC	R65	ERJ3GEYJ103	Carbon 10K ohms 1/16W
IC12	YWM60071FP	IC	R67	ERJ3GEYJ222	Carbon 2.2K ohms 1/16W
IC13	YWL7A1220	IC	R68	ERJ3GEYJ273	Carbon 27K ohms 1/16W
IC14-16	MN4792S	IC	R69	ERJ3GEYJ103	Carbon 10K ohms 1/16W
IC17	YWL7A1219	IC	R70	ERJ3GEYJ824	Carbon 820K ohms 1/16W
IC18	MB90077PF104	IC	R71	ERJ3GEYJ273	Carbon 27K ohms 1/16W
IC19	YWTC4569F	IC	R72	ERJ3GEYJ752	Carbon 7.5K ohms 1/16W
IC20	YWTC7SU04FL	IC	R73	ERJ3GEYJ273	Carbon 27K ohms 1/16W
IC23	YWTC7SU04FUL	IC	R74	ERJ3GEYJ302	Carbon 3K ohms 1/16W
Q1-4	2SK106945	FET	R75	ERJ3GEYJ105	Carbon 1M ohms 1/16W
Q5	2SC4617	Transistor	R76	ERJ3GEY0R00	Carbon 0 ohms 1/16W
Q9,10	2SC4619	Transistor	R77	ERJ3GEYJ102	Carbon 1K ohms 1/16W
Q11	2SA1774	Transistor	R78,79	ERJ3GEYJ103	Carbon 10K ohms 1/16W
Q12,13	2SC4619	Transistor	R80-82	ERJ3GEY0R00	Carbon 0 ohms 1/16W
D1	MA729	Diode	R83	ERJ3GEYJ105	Carbon 1M ohms 1/16W
D2	YWDA121	Diode	R84	ERJ3GEYJ222	Carbon 2.2K ohms 1/16W
D3-8	YWHVU359TRF	Diode	R85	ERJ3GEYJ512	Carbon 5.1K ohms 1/16W
			R86	ERJ3GEYJ472	Carbon 4.7K ohms 1/16W
			R89,91	ERJ3GEYJ682	Carbon 6.8K ohms 1/16W
			R95,96	ERJ3GEYJ162	Carbon 1.6K ohms 1/16W
			R106	ERJ3GEYJ102	Carbon 1K ohms 1/16W
			R107	ERJ3GEY0R00	Carbon 0 ohms 1/16W
			R108,110	ERJ3GEYJ102	Carbon 1K ohms 1/16W

REF.NO.	PART NO.	DESCRIPTION		REF.NO.	PART NO.	DESCRIPTION	
R111	ERJ3GEYJ333	Carbon	33K ohms 1/16W	C18	YW5CH360J5VB	Ceramic	36 pF
R112	ERJ3GEYJ561	Carbon	560 ohms 1/16W	C19	YW5CH330J5VB	Ceramic	33 pF
R113	ERJ3GEYJ101	Carbon	100 ohms 1/16W	C20	YW5X103K5VB	Ceramic	0.01 μ F
R114	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C21,22	YW5F104Z2VB	Ceramic	0.1 μ F
R115	ERJ3GEYJ361	Carbon	360 ohms 1/16W	C23	YW5X103K5VB	Ceramic	0.01 μ F
R116	ERJ3GEYJ202	Carbon	2K ohms 1/16W	C24	ECST0JY335	Tantalum	3.3 μ F 6.3V
R117-119	ERJ3GEYJ101	Carbon	100 ohms 1/16W	C25	YW5CH200J5VB	Ceramic	20 pF
R120,121	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W	C26	YW5CH430J5VB	Ceramic	43 pF
R122-129	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C27	YW5CH470J5VB	Ceramic	47 pF
R130	ERJ3GEYJ471	Carbon	470 ohms 1/16W	C29	YW5CH120J5VB	Ceramic	12 pF
R133	ERJ3GEYJ512	Carbon	5.1K ohms 1/16W	C39	YWE212F105ZT	Ceramic	1 μ F
R134-136	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C40-42	YW5F104Z2VB	Ceramic	0.1 μ F
R137,138	ERJ6GEY0R00	Carbon	1 ohms 1/10W	C43	YWE212F105ZT	Ceramic	1 μ F
R140	ERJ3GEYJ433	Carbon	43K ohms 1/16W	C44,45	YW5F104Z2VB	Ceramic	0.1 μ F
R142	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C46	TAJA105M016	Tantalum	1 μ F 16V
R143	ERJ3GEYJ623	Carbon	62K ohms 1/16W	C47	ECST1AY225ZR	Tantalum	2.2 μ F 10V
R144	ERJ3GEYJ124	Carbon	120K ohms 1/16W	C48	YW5F104Z2VB	Ceramic	0.1 μ F
R145	ERJ3GEYJ683	Carbon	68K ohms 1/16W	C49	ECST1AX106ZR	Tantalum	10 μ F 10V
R500,502	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C50	ECST1AY225ZR	Tantalum	2.2 μ F 10V
R504,505	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C51	ECST1AY335ZR	Tantalum	3.3 μ F 10V
R510	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W	C52-54	ECST1AX106ZR	Tantalum	10 μ F 10V
R511	ERJ3GEYJ221	Carbon	220 ohms 1/16W	C61	ECST1AX106ZR	Tantalum	10 μ F 10V
R514,516	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C63	YW5CH470J5VB	Ceramic	47 pF
R517,519	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C64	YW5F104Z2VB	Ceramic	0.1 μ F
R524-530	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C65	YWE212F105ZT	Ceramic	1 μ F
R536	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C66,67	YW5F104Z2VB	Ceramic	0.1 μ F
R538	ERJ3GEYJ204	Carbon	200K ohms 1/16W	C68,69	YWE212F105ZT	Ceramic	1 μ F
R539	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C70	YW5X103K5VB	Ceramic	0.01 μ F
R540	ERJ3GEYJ822	Carbon	8.2K ohms 1/16W	C71	YW5CH470J5VB	Ceramic	47 pF
R541	ERJ3GEYJ562	Carbon	5.6K ohms 1/16W	C500-510	YW5F104Z2VB	Ceramic	0.1 μ F
R542	ERJ3GEYJ153	Carbon	15K ohms 1/16W	C511	ECST1AX106ZR	Tantalum	10 μ F 10V
R543,544	ERJ3GEYJ333	Carbon	33K ohms 1/16W	C512,517	YW5F104Z2VB	Ceramic	0.1 μ F
R545	ERJ3GEYJ123	Carbon	12K ohms 1/16W	C519-522	YW5F104Z2VB	Ceramic	0.1 μ F
R546,547	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W	C528	YW5CH151J5VB	Ceramic	150 pF
R550	ERJ3RHD181V	Metal	180 ohms 1/16W	C529	YW5CH101J5VB	Ceramic	100 pF
R551	ERJ3GEYJ333	Carbon	33K ohms 1/16W	C530,531	YW5F104Z2VB	Ceramic	0.1 μ F
R552	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C532	YWE212F105ZT	Ceramic	1 μ F
R553	ERJ3GEYJ133	Carbon	13K ohms 1/16W	C533	YW5F104Z2VB	Ceramic	0.1 μ F
R554	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C535	ECST0JY106ZR	Tantalum	10 μ F 6.3V
R555	ERJ3GEYJ101	Carbon	100 ohms 1/16W	C536,539	YW5F104Z2VB	Ceramic	0.1 μ F
R556	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C540,541	YW5F104Z2VB	Ceramic	0.1 μ F
R557	ERJ3GEYJ331	Carbon	330 ohms 1/16W	C542,543	ECST1AX106ZR	Tantalum	10 μ F 10V
R558	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C546	YW5CH100J5VB	Ceramic	10 pF
R559	ERJ3GEYJ152	Carbon	1.5K ohms 1/16W	L1	EIC4EJ012E	Coil	
R560	ERJ3GEYJ103	Carbon	10K ohms 1/16W	L10	ELJFC8R2MF	Coil	8.2 μ H
R561	ERJ6GEY0R00	Carbon	1 ohms 1/10W	L13	ELJFC1R0MF	Coil	1 μ H
R563	ERJ3GEYJ103	Carbon	10K ohms 1/16W	L14	ELJFC2R2MF	Coil	8.2 μ H
R566	ERJ6GEY0R00	Carbon	1 ohms 1/10W	L15	ELJFC8R2MF	Coil	8.2 μ H
C1	ECST1AX106ZR	Tantalum	10 μ F 10V	L16	F2012E8R2KT	Coil	8.2 μ H
C2,4	YW5F104Z2VB	Ceramic	0.1 μ F	L17	ELJFB101KB	Coil	100 μ H
C6,12	YW5F104Z2VB	Ceramic	0.1 μ F				
C14	YW5F104Z2VB	Ceramic	0.1 μ F				
C15	YW5CH820J5VB	Ceramic	82 pF				
C16	YW5F104Z2VB	Ceramic	0.1 μ F				
C17	YW5CH820J5VB	Ceramic	82 pF				

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
L19	ELJFC8R2MF	Coil 8.2 μ H	ACCESSORY PARTS/PACKAGING PARTS		
X1	EF0V8004E0A	Crystal Oscillator	CN110	YFE4191J100	ALC Connector
X2	YWDX14R187	Crystal Oscillator	M51	YWV8QA3452AN	Operating Instructions
X3	YWDX17R734	Crystal Oscillator	M52	YWT050803	Polyethylene Bag
CF1	YWNL453254R4	Filter	M53	YWT20X35C03	Polyethylene Bag
CN1,2	YW51763136	26-pin Connector	M55	YWV9CA2433AN	Packaging Assy
E	YWL3071A04A5	Internal Wire	M57	YWV7SA1450A4	Label
TP1,2	YWRCT2125TPV	Test- Pin	EXTENTION BOARD		
			EXB01	YWV0EA0326AN	Drive/Digital Extention Board